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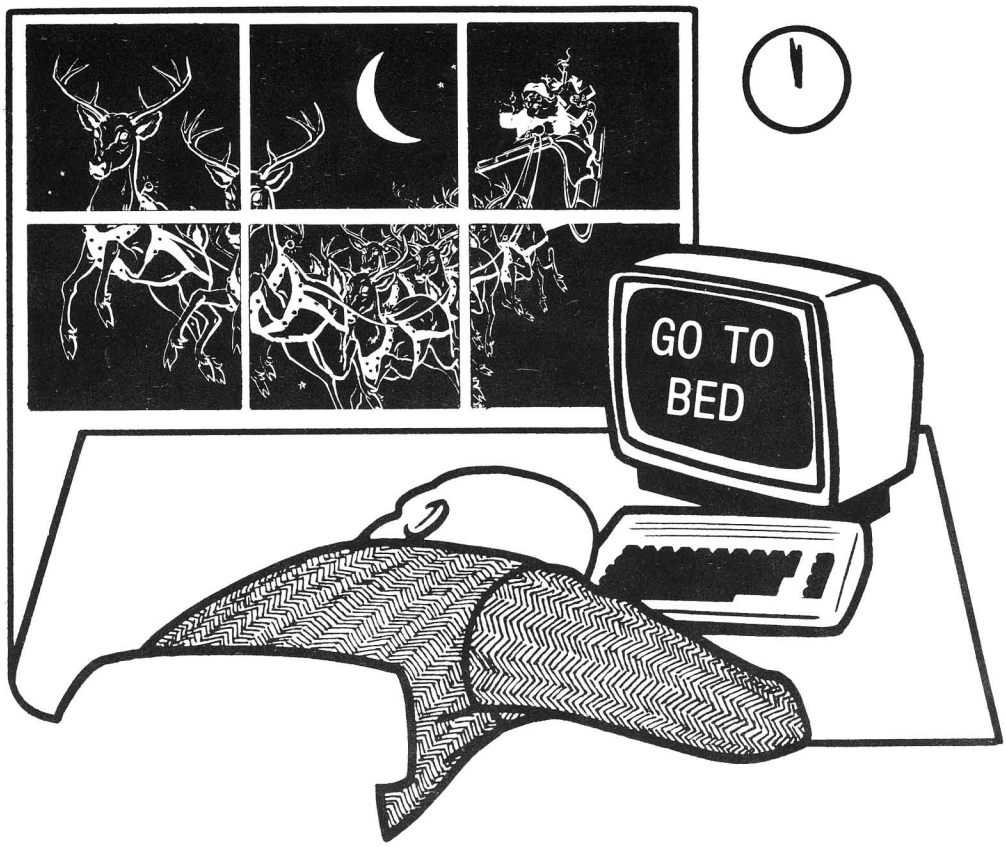
The MIDNITE SOFTWARE GAZETTE

Includes The PAPER

A BI-MONTHLY JOURNAL OF NOTES, REVIEWS AND ARTICLES



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 We actually try to print independent reviews of every product for Commodore computers, plus timely Commodore news and hints. Abbreviated names are Jim Oldfield (JO), Jim Strasma (JS) and Ellen Strasma (ES). To see your full name in print, just drop us a line, or a line drawing, or a review, or an article, or...

THE MIDNITE XPRESS NOTES

Midnite Meanderings

by Jim & Ellen Strasma

"I am a new subscriber to your magazine & find it the **BEST!!** The only thing wrong with your magazine is that you don't publish it enough! You don't know how hard it is for a new user to wait two months. -Howard Kline, East Moline IL"

If you think two months is long, what about three? We deeply apologize that Midnite #15 won't reach you until November. The delay (still within our promised delivery of sometime in October or November) was because we had to write issue #16 first! Yes, continuing subscribers will be receiving a real book for the Christmas issue (December-January), with complete descriptions of the top 200 software programs for the Commodore 64 and VIC 20 computers, published by Consumer Guide. Look for extra copies in your nearest Walden Books or B. Dalton Booksellers sometime in December.

Yes, we hear the groans from those of you with CBM's and PET's. Do not despair! 47 of the 200 reviews also apply to the PET's and CBM's, and that's more reviews than you usually get for the big machines in a typical Midnite issue. However, if you would prefer a copy of the Whole PET Catalog instead, please drop a note to Jim Oldfield (635 Maple, Mt. Zion IL 62549) by December 1st. We aim to please.

MIDNITE SURVEY RESULTS:

Our firm thanks to all who took the time to fill out the survey on the back of the renewal blank last month. Of all those who renewed (which included very nearly everyone who needed to), only two left the survey blank. This is a truly amazing response,and shows clearly that you care what becomes of Midnite.

What did we learn? First, lots of you have two or more computers; more of you (89%) have disks than cassettes (61%), 84% have a printer, and 37% have a MODEM. There are twice as many 64's as any other one model, but just as many of all models of PET as of 64's, or twice as many when 80 column models are included. We have about two-thirds as many VIC owners as 64 owners. About one-third claimed ability to run simple programs and some knowledge of BASIC. Two thirds are able to handle complex programs and know BASIC well. One-third know machine-language and do simple hardware projects. About 20% do complex hardware projects. That is a broad range of abilities, and shows more skill than expected.

As for content, the best news was that only two forms rated any Commmodore magazine ahead of Midnite. On a scale of 10, our average was 8.5 and next best was 6.8. For those having more than one, the other rated Commodore magazines were (from most to least recommended): Compute, Transactor, TorPET, Compute's Gazette, Commander, Commodore & Power/Play. A typical comment about Midnite was, "You're doing fine. Keep it up." Only five people admitted they would like us better as a glossy magazine (2 of those recognizing that this is getting to be a rather large operation for people who also have other things to do in life), most preferring us to work toward going monthly if any change is made at all, though a fair number could live without the first class delivery. We were surprised at how much our readers like the articles. That is the part of Midnite we considered least unique, but it was voted only 25% less space than the reviews which are our trademark. We'll try to save more space for articles in future issues.

Our most popular single section turned out to be CBM/PET Notes, even though 64 Notes is more widely quoted elsewhere. This is probably due to CBM owners having fewer other sources of information. Other popular sections included Commodore and Competitor Notes,

Disk and Printer Notes, and Questions & Answers (expanded this issue to become part of each Notes section.) Smaller numbers were also very loyal to Education Notes, VIC Notes, Want Ads, and a new addition called Business Notes. Thanks for your time in filling out the surveys. We'll try to repay the effort in an ever-improving Midnite.

WHERE ARE THE QUESTIONS THIS ISSUE?

VIC owners complain there's nothing for VIC, 64 owners want hints specificially for their 64, PET owners say everyone has abandoned them, and people don't read what isn't labelled just for their computer. Midnite is unique in that questions are answered in all the note sections, and the same programs are often reviewed in each machine in turn. However, this means we take up lots of space each month with cross-references. Therefore, we're going back to our former format and only dividing reviews by topic, not machine. Each review will show the machine in **boldface.** Questions are scattered throughout the notes section by topic, so we can find them when you call. If you have a disk drive problem, look under Disk Notes; printer-interfacing is under Printer Notes, TV problems under Video Notes, etc. Ken Penny's column (Commodore 64 Notes) covers some topics each issue that apply to everyone (like disk drives, and networking). As for that index many of you asked for - maybe next summer? The "top 200" book indexes and updates many of the reviews.

QUALITY VERSUS ADVERTISING:

Hardly a day goes by without another Commodore book or "magazine" being announced. It's nice to have a popular machine, but the phenomenom is taking away some of our reason for starting the Midnite. As early readers will recall, it was a vacuum of honest information about products that brought it about. To some extent, that has changed, although the great majority of magazines still won't publish a negative review, and most of the rest haven't enough knowledge or experience for their opinions to matter. (A widely-noticed recent review of **WordPro** concluded by saying, in essence: this is the best word processor, but of course I haven't seen any others.)

With dozens of kitchen newsletters masquerading as national magazines, many companies and readers can't tell the wheat from the chaff. Something had to give, and we hope something just has. One other new magazine has just appeared in the Commodore world. The folks that did the very first microcomputer magazine have just introduced RUN magazine. We'll supporting their efforts, while continuing our own. They won't be perfect, but they will be large, and more professional than some competitors. Of course Midnite could also become a casualty, but I doubt it. Even if our subscribers were limited to those who want to be able to call or write us with questions, we'd be around a long time.

Without a doubt, a shakeout is coming, not only in brands of computers, but also in books and magazines about them. Those who survive will either be of better quality or better promoted than those who don't. It's your job to be sure that quality rather than level of advertising makes the difference.

EDITOR'S LAMENT:

Here's a sampling of words commonly misspelled by program authors and software houses. Our industry is notorious for inability to use the English language. As reviewers, we fear that any program with spelling errors has other errors as well!

Programmer's Spelling Quiz

Casette	Congradulations	Gaurantee	Occurance	Softwear
Casset	Curser	Guarranty	Paralell	Sorce
Catagory	Diffaculty	Implimentation	Relitive	Thay
Chanel	Editer	Kernal	Resonable	Warantee
Commdore	Editting	Manuel	Reveiw	Warrenty
		Moniter		Writtin

Business Notes

by Jim Strasma

BEHAVIOR MODIFICATION QUESTION:

Are there any special data base or accounting programs that have been adapted for **Behavior Modification** data? As a Psychologist at a state hospital, we are involved with many Behavior Modification programs, generating reams of paper work. We must keep track of baselines, responses to programs, and tokens and commodities in stock and sold. I would like to do some paper work at home on my 64, to get more time with my patients. I hate to admit how much of my time is spent on staff meetings and paper work. -Herb Gross, Elgin IL

REPLY: Professor Ed Crossman will try to help you. He uses PET model computers similar to your 64 for animal behavior control experiments, and has written some published programs on the subject. His address is: Sof-Touch, 2071 North 1600 East, North Logan UT 84321

BIRD MIGRATION STATISTICS QUESTION:

I would like to locate appropriate "statistics" software on diskette for my 64. I hope to **record bird migration data** for as many as 35 variables relating to species numbers and weather for up to 120 consecutive days during any given spring or fall. I also need to conduct **detailed statistical analyses** with the recorded data. I am most interested in functions such as averages, medians, standard deviation, correlation, linear regression, etc. Graphing or bar charting capability would also be helpful. -Mark Blauer, Nanticoke PA

REPLY: Sounds like a case for **Calc Result: Advanced Version,** ($140 from Computer Marketing Services, Cherry Hill NJ.) It isn't a statistics package as such, but has a huge capacity, and is able to merge information from several "pages" of disk data into a summary "page." Because it is primarily a spreadsheet program with extensive calculation ability, you can add in most any statistics functions you need, and it does include high-resolution graphing ability. Do readers have other suggestions?

DATALOG QUESTION:

I have **Datalog** from Midwest Software. I purchased it to use **as the Club listing to generate lists** of paid members, types of computers, address labels, etc. But so far I have not been able to figure it out. The instructions leave a lot to be desired. I am sure it can do all I want when I get it figured out. If anyone has it and understands how to format it, let me know. -Jerry Carter, Commodore Computer Club of Toledo, 734 Donna Dr., Temperance MI 48182

JINSAM QUESTION:

Do you know of any training centers in Kansas that deal with the **Jinsam 8.2** program? -Kathy Quigley, College of Ed, KSU, Manhattan KS 66506

REPLY: In a word, no. You have our sympathy. Do any readers in Kansas know **Jinsam**?

SILICON OFFICE TEMPLATES OFFER:

I have read with interest the questions and answers on **Silicon Office** in issue 14 Aug/Sep 83, page 2, especially question 2 by Jim Cychler and your answer about the templates. I would be very much interested in such an exchange. If you could get something like this started for me and all the other owners interested, it would be very much appreciated. You could **use my address as a clearing house** and I would then send out the information received to the persons interested. -Willi Geiselmann, 4655 Mehl Rd., St. Louis MO 63129 (314/892-1110 evenings)

SILICON OFFICE QUESTION:

How can I do a **Silicon Office** program to print out my whole file in sorted order, but **sorted by some other field than the KEY**? -Ralph Dude, Bloomington IL

REPLY: Try this. Format a new file, using the FORMAT RECORD command, whose Key field is the field you want to sort in the main file. If the main file looks like this:

```
NAMEKEY  [                                  ]
ADDRESS  [                                  ]
   CITY  [                    ] STATE  [  ]
    ZIP  [          ]
```

and you want to sort in ZIP code order, use the FR command, and create this format, calling it "sort file".

```
 ZIPKEY  [          ]
 RECORD  [    ]
```

It isn't necessary to keep the same field name both times. **Now for the program to create the new sort key.** You may abbreviate the commands to their initials.

```
1 EVALUATE R=1
2 GET RECORD #R [MAIN FILE]:99
3 EVALUATE Z$=ZIP
4 CREATE RECORD [SORT FILE]
5 EVALUATE ZIPKEY=Z$
6 EVALUATE RECORD [SORT FILE]=R
7 EVALUATE R=R+1
8 GOTO 2
```

After you run this program with GO, you'll have a second very small file of just ZIP codes and their location in the main file. If you want to save it, use the STORE PROGRAM command, and call it "sorter". **Now to use it in a real application - printing mailing labels.** Go into the word processor with EDIT TEXT. Create a new text file called LABEL, 40 columns wide by 25 lines long (the minimum):

```
[NAMEKEY]
[ADDRESS]
[CITY], [STATE]
[ZIP]
```

Press the [ESCAPE] key and FINISH EDIT to save your work and exit the word processor. **Now write the program to print 1-up mail labels from the main file, in zip code order.**

```
1 PRINTER SELECT ASCII
2 EVALUATE A=1
3 GET RECORD A [SORT FILE]:99
4 EVALUATE R=RECORD
5 GET RECORD #R [MAIN FILE]
6 PRINT TEXT [LABEL]:L1-6
7 EVALUATE A=A+1
8 GOTO 3
```

Save it under the name "do labels", again using the STORE PROGRAM command. **To print the labels,** set up the printer and type "EXECUTE [DO LABELS]". If the first labels need re-centering, press the [STOP] key, adjust the printer, and type GO to start over. There's nothing terribly difficult about all this most of it is in the manual - just not together on 1 page when you need it. Enjoy!

SUBSORT QUESTION:

I have your **Subsort** for some programs I wrote, and use it in the commercial **Financial Report** (by Bill Brown). I recently purchased **PETspeed** to speed things up and found that the machine language sort doesn't work with the compiled program. Do you have a way to do this? --Brother Timothy Brady, Mt. Saint Michael Academy, Bronx NY

REPLY: Sorry, I don't. **PETspeed** stores its variables in a different way than BASIC. Thus, **Subsort** no longer knows where to find the needed information. A possible alternative is **DTL BASIC** ($350 from CMD, Milton ONT.) It is also a full compiler, but doesn't alter the way BASIC arrays are stored. A version for the 64 has been announced.

Another alternative would be to write a substitute sort in BASIC, and compile it in **Petspeed.** A compiled **Quicksort** or **Heapsort** might be fast enough for your needs, like this one, that works on all Commodore products. With 100 records, this sort takes 31 seconds as is, and 7 seconds compiled. Yet, the compiled version takes longer to load, and takes more space on the diskette.

```
100 input"# of records (<999)";n
110 input"# of fields (<3)";by
120 input"sort field #";sf
130 dims%(16,1),x$(2),a$(998,2)
140 for i=1 to n
160 for j=0 to by
170 for k=1 to 5*rnd(1)
180 a$(i,j)=a$(i,j)+chr$(65+26*rnd(1))
190 next
200 print a$(i,j),
210 next
220 print
230 next
240 print"sorting"
250 t1=ti
260 gosub 370
270 t2=ti
280 for i=1 to n
300 for j=0 to by
310 print a$(i,j),
320 next
330 print
340 next
350 print (t2-t1)/60;"seconds."
360 goto 590
370 s=1:s%(1,0)=1:s%(1,1)=n
380 l=s%(s,0):r=s%(s,1):s=s-1
390 j=l:k=r
400 for i=0 to by
410 x$(i)=a$((l+r)/2,i)
420 next
430 if a$(j,sf)<x$(sf) then j=j+1:goto 430
440 if a$(k,sf)>x$(sf) then k=k-1:goto 440
450 if j=k then j=j+1:k=k-1:goto 430
460 if j>=k then 540
470 for i=0 to by
480 t$=a$(j,i)
490 a$(j,i)=a$(k,i)
500 a$(k,i)=t$
510 next
520 j=j+1:k=k-1
530 goto 430
540 if j<r then s=s+1:s%(s,0)=j:s%(s,1)=r
550 r=k
560 if l<r then 390
570 if s>0 then 380
580 return
590 end
```

WORDPRO-COMPATIBLE DATA BASE QUESTION:

I am especially interested in an 80 column display, a spread sheet, and a data base program, all compatible with **WordPro 3+/64.** If available from any source, please let me know. -Connie Archambault M.D., 55 Country Club Dr., Meriden CT 06450

REPLY: See Keith Peterson's review of the Data/20 80-column board in this issue. Unfortunately, I'm not aware of anyone else's program working with it yet. **The Oracle** (see separate review) can send data to **WordPro.** Does anyone have a spread sheet to **WordPro** converter?

by Ken Penny

The Adventures of Max Maxwell

DAY 7: Disk Drives Make the World Go Around

Max booted up his home finance program and started the month end posting. Suddenly the phone rang. He put his steak supper down on the 1541 drive and went to answer the phone....

A DRIVE TO SURVIVE

Everyone watches the latest disk drive news. We always wish we had a bigger, smaller, faster or quieter disk drive. But we're mainly interested in how to keep them happy, because we remember what life was like without them.

So what's new? Rumor has the **4040** disk drive dead again, with single drives taking over completely (except the 8050 and 8250). They made some low-profile 4040s, or was that a rumor, too? To make us feel better, a **new drive** has been seen that uses one of the little flip-lid drive units and a double-sided head to put an 8250 one megabyte floppy disk into a 1541 size box. Since it uses IEEE output, 64 owners will need an IEEE adapter as well. The **1541**'s have been redesigned for the third time, to save production costs (the new board is much smaller). Since all use the same DOS, you shouldn't notice the difference. The **2031**'s also look a little different internally. Since some early ones had terrible heat problems, the power supply has been improved. Though I personally find it hard to trust those low-profile drives, they seem to work well.

THE FLY IN THE SOUP

No, all is not perfect with Commodore disk drives these days. The biggest problem is the oldest: **heat.** If you set a Soft Error Test program on a 1541 drive to run for 500 passes, it will start to fail after about 300 passes (almost a day later, but the 1541 really should make it through the test). On the other hand, if you open the case of the 1541 and place a fan so that it blows gently across the drive, 500 passes come and go with no problems. Hmmm...

THE HEAT IS ON

Heat brings about another problem. Have you heard fears that if a disk protection scheme "bumps" your 1541, it could ruin your disk drive? Alas, the technique does attack a weak point in the 1541. First, a little background:

All disk drives work on the priniciple that the diskette spins around, while the drive mechanism moves the head back and forth to the perfect position. Finding the perfect position has been the goal of many interesting and exotic head-positioning devices. Shugart uses a spiral shaft, Tandon uses a slot in a disk, while Winchesters use a magnet and a lever. The 1541 uses a fine metal strap wrapped around two cams. This turns out to be very accurate and cheap, but is the crux of the problem. Each non-steel cam is pressing into a steel shaft (one on a stepper motor and one on a head-mover). When the drive gets very hot, the cam and the shaft expand at different rates, so that the cam becomes loose on the shaft. If the drive does a bump while in this condition, the shaft can slip within the cam slightly, ruining the alignment of the drive.

The solution to the problem [after misalignment occurs] is the same as with the flywheel dropping off the capstan - a drip of superglue judiciously applied. Some technicians are starting the alignment procedure, heating up the cam, rotating it to perfect alignment with pliers, then applying the superglue.

WHERE DOES THAT LEAVE US?

The care and feeding of a disk drive is always important. Most drives seem to work fine - except yours and mine, right? Somehow, we need to know what others are doing right. The biggest factor is to keep air circulating around the disk drive. Don't bury the drive inside a little box or underneath a pile of papers, or place it on carpet. Consider using a small muffin fan if you are using the disk drive for long periods of time. [What about only loading the protected program - that "bumps" the drive - when the disk drive is cold? -ED] And REMEMBER: 90% of all disk problems are the direct result of saving 50 cents on a diskette. **Buy quality diskettes!**

When Max returned to the 64 and his steak supper, he was surprised to see steam rising from the steak. Even the plate was steaming a bit. Shrugging, he sliced off another bite of steak, only to find that medium-rare had somehow become medium-well done....

DAY 8: Flash and Sizzle

Max Maxwell confidently turned on his 64 to do a little **Jumpman** processing and went for some Fritos. When he came back, he tried again - and again. Some frustrating hours later, he decided it was indeed broken, and made a short trip to the dealer...

FIRST, FLASH

Quality control is a funny thing. Some companies save money by designing their products perfectly, some by building them perfectly, some by inspecting them completely. Commodore seems to prefer sending it all to the customer to re-design, re-build and re-inspect at leisure - but not on purpose. Detroit tests new cars for 3 years before they build them. But we don't want Commodore to do that! Therefore, new Commodore products that hit the streets quickly go through "shakedown" periods - at the customer's expense. (Commodore's great exception to this policy is the B-Machine). Quality can also suffer when production is behind. The net result: For a short while last summer, just after the new power supplies came out, you had a 30% chance that the first thing a new 64 would display was a FLASH. Depite a widely-quoted statement from Chicago's Video King chain, the true overall failure rate is about 5%. Up to 80% of returned units aren't broken at all - just not properly operated by clerks and customers.

THEN, SIZZLE

The next problem is what to do about it. Most dealers are nervous about exchanging 64's over the counter. They want to know where you got it, when, and whether they can avoid an exchange for any rational reason. This is because Commodore's repair and exchange policy changes constantly. They really are trying to keep everyone happy, but something always seems to go wrong, so that there are a few customers doing a SIZZLE.

WHY ME?

Why do some people have no problem getting a good 64, a good drive, or even a good printer, and never have complaints? In most cases, it is because they buy from a good dealer. There are still Commodore dealers that will exchange 64's with no questions asked (other than proof of recent purchase). Some laudable dealers even check the equipment before selling it. A quick inspection or a slight tweak may fix it up, and save you a return trip. The trick is to find these dealers, and GIVE THEM MONEY!! The most important thing is to pay their price. That's what it costs to support a product. We all know that; some of us even do it. What else can we do to avoid repair lines?

POWER-FUL CHANGES

Commodore recently brought out a new power supply. RUMOR: someone figured out that since most power supplies are built 10% over their rated capacity, Commodore should order them 10% below the rated need. Of course, the power supplies came exactly as ordered: 10%

too low. Commodore improved one aspect, though: the new supply is separately fused. The only problem is that the fuse is 2 inches deep in potting and can't be replaced.

The bottom line is: Be tender to your power supply. Unplug it when not in use, keep it cool and breezy, and don't expect to run a 100 watt light bulb directly off the user port. You can hang 1 or 2 power-users on the expansion port, but not 6 or 7!

ROTATIONAL EXPERTISE

Some power supplies surprisingly came with only 3 pins in the 5-pin DIN plug. If you don't watch the indentation and force it a bit, there are three ways to plug it in; one way works fine, one way blows up the power supply, and the third way blows up the 64. The moral is: BE CAREFUL!! If you have one of these power supplies, mark 'up' in big red letters on the box!

"Exchange?" asked the K-Mart clerk. "What serial number"?

"-27," said Max.

"No can do," said the clerk. "We only accept odd serial numbers during a full moon. Besides, we haven't had much trouble with them."

Max leaned against the wall to control his emotions - and noticed it was made of 64 boxes marked 'Defective'.....

Other Notes:

ELEMENTARY COMMODORE 64 Update

For the November issue, we plan to print the Ultimate Errata listing for Bill Sander's Elementary Commodore 64. This issue will be sent to anybody who wants it, even though they do not subscribe for the year (at $10). Send $1 to Com'Putoy Cult, Box 7776S, San Diego CA 92107. Bill is a member of our group and we have pitched in to make a good book better. And we never stop telling the recruits how much they need the **Midnite** [in case you were wondering why we printed this! -ED]. -Jane Campbell, Comm'Putoy Cult

CBM/PET/SuperPET Notes

SUPERPET DOS COMMANDS

Jim Swift found he could enter any DOS command in mPASCAL with the 'get' command:

g ieee8-15.NO:newdisk, id

We tried ALL the DOS commands in ALL languages except APL (in both Verions 1.0 and 1.1). The method works in all those languages without exception (mCOBOL gives you a 'FILE NOT FOUND' error, but still obeys the DOS commands). At last, a standard way to enter DOS commands. -(SuperPET Gazette)

A NEW HOME FOR SUPERPET EPROMS:

On 2-board SuperPETs with 2 switches, socket locations have changed. U45 now takes ROMs designed for $9000-$9FFF, and U46 for $A000-$AFFF. The new sockets are easy to find and use (on the front edge of the top board). To access the $9000 ROM (U45), poke 61438,1 (using BASIC 4); to access the $9000 RAM from 6502, use BASIC 4.0 to poke 61438,0.

Waterloo also says that Revision B (or earlier) boards need these changes on the COMBO board (the upper of 2 boards on 3-board SuperPETs):

1) Add a trace from pin 24 to pin 21 on U46.
2) Cut the trace from pin 21 to the bottom of the board. -SuperPET Gazette

Commodore Notes

by Jim Strasma

There's lots of Commodore news this time - some bad. We prefer to be upbeat about Commodore, since every magazine that has ever prophesied doom about Commodore has been wrong, and nearly everyone we know who worked or works at Commodore deserves a lot of praise. Still, you have a right to know the latest happenings.

FIRST THE USUAL NEWS:

Commodore 64's are everywhere. Several of my students have already bought them this Fall, more or less on impulse, as have several others around town. Once the price of the 64 got below $200, sales of everything else just died, even the Apple][e. But to really use a 64 you need a...

What's been scarcer than hen's teeth? **1541 disk drives**! Lots of "reasons" are being reported. One we hope is true says they were held up to get revised ROMs to work properly with two disk drives on the bus. (They did get revised ROMS. Whether they fix anything remains to be seen.) Fortunately, shipments of drives have just resumed, because alternatives are getting scarce - the 4040 has been cancelled, with no plans for a replacement. A single drive "8150" is rumored, which would be very nice for those of us with access to an 8250 for backups, but worthless for everyone else. ("Backup 1541" would need 47 diskette swaps to copy an 8250 diskette, and "Copy-all" would need 3 hours to do a backup between two of them!) Meanwhile, the **1701 monitor** has become the 1702. No word yet on its cost, maker or quality.

Yes, the **Max** is really gone. Commodore is blaming (i.e., suing) the maker of the keyboard, for giving the product a bad name in Japan. Others blame the VIC, which dropped in price so quickly that the Max couldn't be introduced here. Another low end model, called TED, has been ratting around at corporate all year and may even be announced some day.

Remember the **P**'s that were recalled last summer? They're back, as gutted BX's, with 128K RAM, 80 column screen, with no color and no built-in disk or TV. How many of you knew that the cassette port on the B doesn't work unless you load in a cassette operating system from disk first? So much for the last bit of compatibility across the entire Commodore line. (Thanks to Albert Reuss, who sent us a whole page of things he's discovered about the cancelled P-128. We'll resurrect your list in January.)

Reportedly only 3,000 **portable SX-64**'s are to be built initially. Bet they all come with single drives. There are still **no 1526 printers** out. The problem is reportedly in the disk drive, but the fix will still have to be in the printer. Otherwise Commodore would have to fix all those 1541 disk drives. One thing's for sure; Commodore dealers are dumping their stocks of VIC programs. If you need VIC software, get it while you can. Too bad for the big Apple software houses that are only now getting their programs out for the VIC, but not for the 64 yet. Atari, for instance, has just reportedly made 50,000 copies of **Defender** for the VIC. Wish 'em luck selling them all; they'll need it.

NOW FOR THE BAD NEWS:

KRP reports there's a reason for everything Commodore does, and that it always makes sense at the top. But that doesn't make life easier for the Commodore dealer. Always at the wrong end of the stick, the dealer has been delivered an extra large load of trouble this Fall. The flip side of deciding that the mass market is the way to make money is the decision that individual retailers are more trouble than they are worth. Half of Commodore's full-line dealers were reportedly dropped this summer, and 99% of the rest are looking for something (anything) else to sell.

A recent insult requires all orders to divide neatly into 40% computers, 40% peripherals, and 20% software. That ratio doesn't fit the needs of any dealer we know,

large or small, local or mail order. This is on top of another recent requirement that each order must total at least $5,000 minimum. But that isn't all. After the order finally does go in, it will have only the lowest priority at Commodore. The current rule is: direct sales to schools get shipped first, then mass merchandisers, and dealers last! (Fortunately, Commodore is sometimes nicer to its dealers than this policy would indicate. JO was the first dealer in Central IL to get 1541 disks again last week, before the local branches of the mass merchants.)

There's also "credit hold". If any item purchased by a dealer is unpaid more than a couple of months, Commodore reportedly won't ship anything else to that dealer. Now this last makes sense at first. We don't ship Midnite's to dealers who don't pay their bills either. But Commodore stops shipment even if the unpaid item is under dispute, such as when it arrives at the dealer's dead, and Commodore doesn't want to take it back. They also stop shipment even when money owed the dealer by Commodore exceeds the amount owed by the dealer to Commodore. (Theoretically, Commodore will reimburse dealers for money lost when Commodore reduces retail prices on inventory already in stock at the dealer's. Some dealers claim they have never received a dime from that promise -- and are now owed as much as $40,000.) As you might expect, some dealers are filing suit against Commodore, others are getting out, and very few are happy. Even some distributors are bailing out. Of five in our area last summer (averaging $50,000 per order), only one still sells Commodore products. In a similar vein, we've heard (from a former employee) that Commodore only fulfills about 5-10% of the contracts it signs, so don't get excited if you "sell" a program to them until you actually see a check.

Yes, Commodore is still profitable after the latest quarterly report, and has driven its current competitors into the ground. But that may still end. New computers are still appearing almost daily, and with its habitual grace, Commodore could manage to offend even the mass merchants. Corporate is making lots of money, but perhaps not as much as if it hadn't stiffed all its dealers and distributors. What's the future hold? Perhaps a repeat of the video game market. Commodore will dominate the home computer market for a while, as Atari once did video games. Then what? The only computers Commodore has released since Chuck Peddle (and everyone else) left that weren't partly designed by him are the "P" and "B", which might have been newsworthy 2 years ago.

Is there anything consumers can do? Possibly not. Commodore's top leadership is very unique. It doesn't respond well to either the carrot or the stick, to vinegar or honey. The only thing it visibly does well is make computers, and doesn't seem to care about anything else. Considering the fate of its competitors, perhaps it doesn't need to....

FORMER COMMODORE EMPLOYEES:

Frequent contributer Keith Peterson is now a popular former Commodore spokesman. Given the choice of moving to Pennsylvania or being fired, he decided it would be fun to work for Motorola, just a few blocks down the street from the now former Commodore Midwest office. Users and dealers everywhere owe Keith many thanks.

THE LAST COMPUTER PARTS:

Commodore International plans to **produce its own 64K RAM semiconductors** under a technology license from Micron Technology of Boise, Idaho. High-volume production of the chips is expected to start early next year at Commodore's Costa Mesa CA manufacturing facility. The 64K RAM chips are the only major semiconductor part used in the 64 that Commodore does not already produce itself.

APPLE EMULATOR AGAIN:

Still another Apple emulator is rumored, this time from normally reputable AID in Minneapolis. If the "Amulator" makes it out the door as promised by Mike Halverson, it will cost $130, be limited to a single drive, be read-only, and will not work with programs needing 80 columns or other enhancements to a normal Apple][.

That Was The Computer That Was

The loss figures we reported last time grossly underestimated the extent of the pending disasters at Mattel, Atari and Texas Instruments, among others.

Atari has had three horrible quarters in a row now, for a total loss of $490 million dollars, making it the biggest corporate loser since Chrysler. We've heard Warner Communications planned to sell Atari to Phillips (of Holland). Is Phillips still interested? Warner laid off 30% of its corporate staff after reporting the latest loss. Atari reportedly denies any plans to drop out of home computers, but is rumored to have sought legal protection (Chapter 13, whatever that is) from creditors.

Coleco's Adam may be recorded as one of the great fumbles of 1983. It is now reportedly shipping, after such a long delay that many have forgotten about it. It is also a hundred dollars more money than planned, and is about as short of software as a new product can be. The included word processor program reportedly has a capacity of one page and the only daisywheel printer in existence that doesn't produce letter-quality output. Add in the Coleco video games and that's it. No other software available from anyone. The promised CP/M and Apple compatibility? Not until the stringy floppy cassettes are replaced with a disk drive.

"As the money manager who dumped Coleco stock at a big profit put it: 'They seem to be setting themselves up for the next bloodbath." -Hardcopy

(We'll say it again. Don't buy ANY new computer model until it's been on the market for several months. The only new model we've ever used that was completely salable as introduced is the **Tandy Model 100.**)

Mattel has reportedly given up, planning to get out of the U.S. market and try to unload $150 million dollars worth of inventory in Europe.

TI, which started the whole price war last Fall, has now withdrawn from the home computer market entirely, after losing another $110 million last quarter. Perhaps as a result, Sears, which previously wanted nothing to do with Commodore, now offers the **64** in its latest sale book. How many of you believed Commodore last Fall when it promised to wipe out TI?

After Fall Housecleaning, What's Left?

APPLE

Apple is planning a new disk drive for the **Lisa**, and reportedly fired the team that designed the original one. It reportedly has been giving problems -- and of course who wants to be the only one in town with two cutouts on your diskette for the drive head. Another effort to corner the market with a non-standard design bites the dust.

Computer & Software News reports that **Apple][e** sales have leveled off, forcing Apple into the less profitable schools market, where Apple still has a 4 to 1 dominance. On the other hand, even with a 70% drop in earnings from the same quarter last year, Apple is still making money, unlike most competitors. A recent price cut by Apple has brought the price of a][-e with single disk below $1,000 in our area. Also down is its stock, finally selling at a lower price/earnings ratio than Commodore's.

KRP has just heard from a usually reliable source that Apple's Macintosh has been cancelled -- too costly. Five other projects are reportedly under development at once in

hopes something will pan out. Hal Hardenberg also reports **Lisa** production has been moved from California to Texas, and 55% of the workers in the Texas plant laid off. Obviously a big seller...

EPSON

Most major CP/M software packages are now available for **Epson's QX-10** computer (**Wordstar, D-Base II, Peachtree,** etc.). The speed problem with **Valdoc** (the wordprocessor sold with the QX-10) has been cured as of version 1.18, although it still lacks a few features, such as variable blocks, printing without saving the file, and implementation of size and style keys. I have been told that versin 2.00 will have these features.

Trying to figure out the **QX-10** reminds me of the early days with Commodore. I know the computer has the capabilities, but no one can tell me how to use them. The **QX-10** is a great machine if you have time and patience. -Ross Garber, Suffern NY

IBM

IBM certainly underwhelmed us with the just-introduced **Peanut,** alias **PC, Jr.** As announced, the only notable feature compared to a 64 is a wireless infra-red keyboard. Also, it not only doesn't have sprites; it doesn't even have a monitor output. The advertised price is $800, but dealers must order 90% of their units in the optional $1,300 version with 128K RAM and a 360K single disk. It is only compatible with PC programs that run under a new DOS 2.1, and the 64K version has only 18K free for programs. Even so, it'll probably kill the Apple][e. -JS

Ron Jeffries thinks **Commodore** is the only outfit that stands a chance against IBM in the home (not personal) computer marketplace. We [Midnite & Hal Hardenberg] think IBM is the only outfit that stands a chance against Commodore in the home computer marketplace. A crucial difference between Commodore and IBM is that Commodore does not deliberately 'bust' low-end products to protect high-end products. If **Peanut** is too good, who will buy a **PC**? If the **PC** is too good, who will buy the **Displaywriter**? And so on, ad nauseum!

The biggest result of **Peanut**'s introduction is that Commodore may finally have to make a real disk available for the 64. Hal Hardenberg, claims "The 1541 is really a cleverly disguised...tape deck." (DTACK Grounded)

KAYPRO

Kaypro has the lead spot in luggable computers now that Osborne is the next best thing to gone. Other CP/M makers such as **North Star** and **Vector Graphics** suddenly seem to be feeling the heat from it and from the PC, and have cut prices.

MOSTEK

Mostek has introduced a 256K dynamic RAM memory chip. The new MK4856 chip is especially designed for 8-bit systems. Such computers will be able to have 32K bytes of RAM from a single chip. (That's as much as the 8032, which uses 16 chips to do the same job.) No word yet on when you can buy them.

TANDY

Tandy is still making money, and feels "to lose money or...go financially under in a marketplace growing like the personal computer business is somewhat astonishing" (Computer+Software News.) They have introduced a luggable version of the **Model 4,** for about $200 below the price of the stationary version. Still no green screen. Otherwise intelligent Consumer Reports magazine has just recommended their **CoCo** above all other home computers.

PET designer Chuck Peddle's company, **Victor,** just had another bad quarter, and has even further reduced its staff. The company is reportedly still doing well in Europe, where its computer has been a top seller for two years, and may even relocate there. Bob Fairbairn, one of Keith Peterson's fellow departees from Commodore has joined many other Commodore alumni at Victor.

AMERICAN PERIPHERALS:

Ever since I found out they were selling the public domain program, **Monopole**, by John O'Hare under someone else's name, I've been curious about American Peripherals. Speaking as a Commodore computer dealer stuck with several, their programs are very uninteresting. They're s-l-o-w, far less than colorful and way overpriced. When you list the game **Football**, the first two lines say : FOOTBALL ORIGINALLY FOR PET, CONVERTED TO 64 BY ..., and **Backgammon** says **VIC Gammon** all the way through it. On the other hand, A.P. has found the BEST program protection scheme I've ever seen. Buy these programs from public domain sources, instead. Here are some programs I STILL would like to sell: Backgammon ($25), Football ($15), Horserace-64 ($15), Meteor-64 ($20), Othello ($15), Yahtzee ($15). -JO

FSS SERVICE:

Several years ago, I purchased the terminal program **Petterm** from FSS (Charles Lohf). The program itself was quite well done, except that it did not successfully transfer sequential files to a VAX computer. I sent Mr. Lohf a copy of my data and described my difficulties. After 1-1/2 years, several letters and phone calls, the problem has never been rectified, despite many promises from Mr. Lohf. Needless to say, I have little use for FSS and cannot recommend its products. -Ed Crossman, North Logan UT

HES:

In its first year, Human Engineered Software meant just that - excellent easily-used products. Since, HESware (as it's now called) might better be called Heavily-Advertised Software, showing no visible concern for quality. Though widely sold, few of their current products are worth a second glance. Perhaps, new part-owner Microsoft can force a return to human engineering. First reports on **Multi-Plan** for the 64 give us some hope. -JS

PUBLIC DOMAIN, INC.:

Their name says it all. For $10 a diskette or cassette, it's a very good buy, especially compared to many $40-50 games. If you don't have a user group or your user group needs a small library, Public Domain Inc. is an excellent way to go. They screen and clean up programs they receive and release them on disks and tapes. I have heard nothing but good remarks about Bill and George. Drop them a line to see their flyer. -JO

[NOTE: We understand Public Domain is copyrighting their diskettes. This doesn't alter your right to any public domain programs contained therein. -JS]

SCHOOL & HOME COURSEWARE DELIVERY:

Some time ago a reader mentioned SLOW delivery from School & Home Courseware of Fresno, CA. We also experienced problems. I wrote and was assured the matter would be rectified. A renewal notice from them resulted in my writing again to complain of SLOW delivery. Today I received a phone call from their President, Dr. Dan Isaacson, assuring me they would fulfill their obligations to their subscribers, but that it would take time. We will end up with thirteen programs, instead of ten. All subscribers will receive a letter to this effect. Their programs are well documented and the CBM version will run on the PET and the 64. -Gerrit Moleman, Sackville New Brunswick CANADA

ON REPLACING DAMAGED DISKETTES:

A customer asked for a replacement diskette recently, claiming failure to load. Normally we would, but not this time. Our reasons may help you get better responses from companies when you have a problem. Here is what we noticed: 1) The diskette had been tampered with. The write protect tabs were missing, and many of the original files erased, including the directions. People who do that kiss their warranty goodbye. 2) Sometimes a company will forgive replacement fees after a diskette is abused, if the customer

apologizes and offers to cover the repair cost. The request we received did not admit fault, nor include return postage, let alone payment for the work requested. 3) We'd already replaced that customer's diskette once. 4) Although the complaint said the program wouldn't load, later comments made it obvious the program had both loaded and run, as it still did when we tested it. 5) Specific complaints made us sure the user hasn't read the instructions. Companies expect you to do that before asking them how to use a product.

The **best thing to do when you get a new program** is immediately back it up, without removing a write-protect tab or altering the diskette. Then use only the backup. Second, read the directions. Third, if you still have a problem, identify it correctly. There is a big difference between "loading" and "running". When you return a diskette to a company, include a data diskette to illustrate problems you want fixed, sample printouts, and fully describe the trouble. Fourth, if you caused the problem, offer to pay for the repair and return of your diskette. Following these suggestions will minimize your problems with programs, help the company repair "bugs", and make companies more willing to help you. -JS

COMPANY WARRANTIES

In preparing for the Christmas issue (the book of the top 200 64 and VIC programs), we had to track down a lot of warranties. We thought readers would be interested in seeing our list. We were amazed at the number of "no stated warranties." Please write in with corrections, companies! Let's see if we can print an updated list for the February 1983 issue (deadline for submissions: January 9, 1983). -ES

A.B. Computers	Varies by product	Micro World Computers	No stated warranty
Abacus Software	90 day media war.	Microdigital	90 day limited war.
Academy Software	120 day limited war.	Microtechnic Solut.	30 day media war.
Access Software	No stated warranty	MicroWare	Full warranty
Arfon (Daedalus Dig.)	Anti-warranty	Midnite Software	Full warranty
Batteries Included	1 year limited war.	Midwest Micro Assoc.	90 day repl. war.
Briley Software	90 day media war.	Midwest Software	No stated warranty
Broderbund	Full warranty	Nibbles & Bits	Free replace. war.
Cardco	Full warranty	Nufekop	No stated warranty
City Software	Full warranty	Omni Unlimited	Full warranty
CMD	No stated warranty	Precision Software	Anti-warranty
The Code Works	Replace defect. med.	Professional Software	Unstated 30 day media warranty
Commercial Data Sys.	Full 90 day war.		
Commodore	No stated warranty	Programmer's Inst.	Limited 30 day war.
Comm*Data	Limited media war.	Pro-Line Software	Unstated warranty
Computer Market. Ser.	Anti-warranty	Quick Brown Fox	No stated warranty
Continental Soft. Co.	90 day media war.	Rainbow Computer Cor.	Anti-warranty
Counterpoint Software	30 day limited war.	Sierra On-Line	No stated warranty
Creative Software	30-90 day media war.	SimplexSoft Ltd	$5 replace. fee
Custom Software Des.	Anti-warranty	Sirius	No stated warranty
Cyberia, Inc.	90 day limited war.	Skyles Electric Works	No warranty ($10 media repl.)
DES	No stated warranty		
Eastern House Softw.	Full 60 day war. + hotline	Solidus Intl.	Hotline
		Southern Solutions	Full warranty
Epyx	30 day media war.	Spinnaker	30 day repl. war.
Foxfire Systems	30 day media war.	Synapse Software	90 day media war.
French Silk	No stated warranty	Tamarack Software	Anti-warranty
HES	No stated warranty	Taylormade Software	No stated warranty
HesWare	Anti-warranty	Thorn EMI	No stated warranty
Infocom	90 day media war.	Timeworks	90 day warranty
Info-Designs	90 day media war.	TOTL Software	Anti-warranty ($2 help fee)
Madison Computers	90 day limited war.		
Merlan Scientific	No stated warranty	UMI	No stated warranty
Micro Software Intl.	90 day replace. war.	Webber Software	No stated warranty

CHINTSY FLIPPIES RETORT:

In a recent issue of the Midnite, "E.S." says it's "chintsy" to make a flippy out of your floppy. All I have to do is punch notches in 10 more diskettes (thereby doubling my disk capacity) and I'll be able to afford to re-new my Midnite subscription. Should I stop now? -John Walker (Hardcopy)

REPLY: Of course not! Everyone knows Midnite is worth more than 10 diskettes! -ES

DISK-DOUBLER HOLE PUNCH:

John and Mary Howe report that they ordered a calibrated hole punch from Link Marketing, called **Disk-Doubler**, so that they could double their disk space. 22 weeks have gone by and it has not arrived. Instead, they get nice letters. -John Walker (Hardcopy)

COPYING DISK-TO-DISK QUESTION:

Should the program **1541 Backup** take at least a half hour to copy a full diskette? Also, using two 1541 disk drives, **Copy-all** took five hours to copy four diskettes, and even then it started reporting errors about halfway through. When will Commodore make a disk drive with acceptable speed? -Connie Archambault, Meriden CT

REPLY: Yes, **1541 Backup** takes a half hour to work. Each of the 170,000 bytes on the diskette has to be loaded into the computer, and then saved on the disk again, not to mention the time needed to format the new diskette and for you to pop the diskettes in and out of the drive a half dozen times each. The same is true of **Copy-all**, except that it eliminates the need to change diskettes.

Commodore already makes a faster disk drive that is usable with the 64. If time matters in your work, get a CBM 4040 disk drive, and connect it to the 64 with an **Interpod** or **C64-Link** interface. Doing a Backup on the 4040 take about 2 minutes. Loading or Saving a program is four times faster with a 4040 disk drive using the **C-Link** than with the **Interpod** or than the 1541 disk drive, but the **Interpod** will work more easily with some programs than will the **C-Link** interface. -JS

COPYING TAPES-TO-DISK ANSWER:

When I finally bought my disk drive I wanted to get disk copies of some commercial game tapes I had bought previously. One dealer did exchange a tape, because it had been purchased previously, but others would not. I finally figured out how to do it. Most tape protection consists of a short machine language portion in the cassette buffer which is erased during a save. To make a copy I first loaded **Supermon 64.** Then the tape leader was loaded. When FOUND came up, the load was stopped and the tape buffer in the monitor was examined starting at C003. Whatever was there was saved using the monitor. Next a previously prepared dynamic keyboard boot was saved with the program names. Then the tape was rewound and the whole program saved to disk from tape. When the boot is run, the game is loaded and can be run minus some initial graphics. -Herb Gross, Elgin IL

DISK DENSITY Update:

After our comments on diskette density in M/P14 (page 8), Jeff Eklund forwarded a two-page tech note from Rich Kurtz of Commodore. It claims Commodore has never made a single-density disk drive, and recommends using double-density soft-sectored diskettes on the 1541, 2031 and 4040.

Well, Jeff, doing as Rich suggests won't hurt anything but your pocketbook, but using single-density diskettes probably isn't what's wrong with your 2031. We also differ with Rich on the history. (So does Bob Baker in a current issue of Microcomputing.) When the 2040 first came out, one of its main benefits was that it greatly increased diskette capacity without increasing data density and without using sector holes. We early users were assured we could use any properly made 5-1/4 inch diskette, no matter what the density

or the sectoring scheme. The 2040 got its added capacity over Apple and Tandy drives, not by packing data tighter within a sector, but by varying the number of sectors per track. Rich's memo mentioned that single-density diskettes have 26 sectors per track each of 128 bytes. Actually, Apple's first DOS used 13 sectors of 256 bytes, with the same overall capacity, since upped to 16 sectors. In contrast, Commodore's 2040 varied the number of sectors from 13 to 18 per track, putting more in the outer tracks where they are less crowded. Though its capacity is higher, data density is lower on a 1541/2031/4040 than on a current Apple DOS 3.3 drive.

More likely your trouble with the 2031 is with inadequate write current to the disk drive head. There is a fix for that, involving adding a couple of transistors to the circuit. Even then, the 2031 won't have the error-recovery power of the 4040, although it should work better than a 1541. -JS

1541 DISK DRIVE REPAIRS:

I heard a strange wooshing sound as the directory was loaded. Things went downhill with the disk drive from then on. I could no longer save programs; loading took twice as long; and many files were declared not on my diskettes.

I took my disk drive to Hyannis (MA) to the Prism Computer Store. They said it was damaged but that I would have to wait some time for them to get the proper parts. Since I was returning to New Jersey [and] the drive was not under warranty, I called a [California] number I found on the warranty card. I was told that both [my early ROM 64] computer and the disk drive would be replaced - new!! I was told to send $55 for a computer and $85 for a disk drive. I have done so, and hope to hear from Commodore soon. My kids and I wonder what will happen to the units which we shipped. It would be so sad if they are just junked. American labor must be too steep to make it economical to repair or replace a ROM. I am glad to start over fresh at the prices quoted. By the by, do you suppose the backside of the diskette could have injured the disk drive? -Anne C.S. Phillipps, NJ

> **REPLY:** Now that you've sent for a new drive, it's the wrong time to tell you, but I expect your "whooshing sound" from the 1541 was its flywheel rubbing against the bottom case. It's a very common 1541 fault, sounds awful, and takes no more than a small hammer to fix, once you get the case off with a Phillips screwdriver. If that's the problem, double-sided diskettes have nothing to do with it, and it may happen to your new drive as well some day. To keep the fly-wheel from becoming loose again, folks now superglue it. -JS

RELATIVE FILES WITH INTERPOD HINT:

One of our readers has discovered that leaving CHR$(96) out of the RECORD# command in working with relative disk files eliminates the **Interpod IEEE-488 adapter**'s tendency to return garbage along with the disk error status. I should think it would -- there isn't any CHR$(96) in the RECORD# command, either in our book or in Ray West's manual! -JS

WHAT SIZE IS THAT RELATIVE RECORD?

Have you ever needed to find out how large the records are on a relative file set up by a program you couldn't "list"? This often happens when working with protected business programs. This information is in the disk header, but how do you read it? Below is a little program that will look at the first record of the file and tell you, but not in so many words.

The first thing to do is open the relative file. Then use the byte pointer part of the record command. We can count up the bytes of the record until we get an error greater than 20, which is read by testing DS (disk status). This gives you the length of record. -Rick West (PET User Group newsletter, KCCI)

```
10 input"What is the file name";f$
20 dopen#2,(f$),d0:x=1
30 record#2,1,(x):if ds>20 then dclose:print x-1:end
40 x=x+1:goto30
```

JOINT KINDERCARE/ FISHER SCIENTIFIC PRESCHOOL PROGRAM:

The Commodore International magazine ran this picture showing pre-schoolers at one of 3 Kindercare centers "learning pre-math and pre-reading concepts, memory skills, colors, shapes and concepts such as over/under." Fisher Scientific helped them develop the system, using light pens on PET's in Minneapolis and Houston and then 64's in Montgomery AL. -ES

Children at work in a kindercare center.

PRE-SCHOOL PROGRAMS QUESTION:

Are there any Public Domain or tradable programs for pre-schoolers that can not read, for either the VIC or 64? My 5-year-old daughter, Rachel, finally took an interest in my machines. The only programs that I have been able to find for her are a simple one called **How Many?** and a joystick tester that prints out in colors. -Herb Gross, Elgin IL

REPLY: There are three very good commercial programs available for your Kindergartner. Each uses an easy "picture" or number menu. Rachel can then choose between up to a dozen different short, colorful educational programs. Our favorite is **Kinder Koncepts** (from Midwest Software, Farmington MI.) Next is **Kindercomp** (from Spinnaker, Cambridge MA), and then **Early Games for Young Children** (from Counterpoint Software.) As for Public Domain equivalents, you've now received some we had for the PET. After you convert them to the 64, let us know so other Midnite readers can enjoy them. -JS

ROM ENHANCE FOR THE COMMODORE EDUCATIONAL PROGRAMS:

Commodore 64 owners who have noticed that some Public Domain Educational diskettes from Commodore don't run properly, should get the ROM ENHANCE diskette from their dealer. Commodore formatted all the public domain diskettes to run on the early 64's and then changed the ROM chip on post-52000 serial # 64's. The result? Quite a few programs will not run correctly on new 64's. The problems are mainly in pokes to screen memory that the ROM ENHANCE diskette solves. By the way, the ROM Enhance program cannot reside in the 64 simultaneously with the DOS Wedge. If you get the impression that the right hand doesn't know what the left is doing at Commodore, you're getting warm. -Rich Westerman, Kankakee IL

UNEXPANDED VIC SOFTWARE QUESTION:

I've installed three unextended VIC 20's in my 4th grade classroom to teach elementary computer usage and programming. Now I would like to find suitable software to stimulate reading, spelling, and math skills. The programs I have seen to date are very poor. Can you help me find good ones? I can use all levels from K through 6 since many of my students can't speak English. -Geneva Spencer, 2134 N. Mt. Gilead Rd., Bloomington IN 47401

REPLY: Most decent educational software is being written or converted to the 64 now, even though the children in your classroom prefer the large letters on the VIC to those of the 64. We'll keep sending you the announcements and any review copies we receive for the Midnite, Mom. Who else ca help? -ES

USING THE COMPUTER TO TEACH PROPER WRITING STYLE:

In Midnite #12, Bob (G.R.) Boynton told us how his Political Science Dept. used Commodore computers as interactive word processors with the University of Iowa's large Prime computer system. Last summer he droppedeus this note on his teaching activities:

"I find myself in the position of editor, of a sort, this summer. I am teaching summer school, and I am having the students deliver their papers electronically so that I can run them through Punctuation and Style and Grammatik. The improvement from paper one to paper two has been dramatic - especially evident is a decrease in awkward phrases. I think they decided I really meant business. Computers are good for many things."

Midnite Gaming Notes

CASTLE RUMOR:

Castle Wolfenstein, eternal best-seller on the Apple][has just arrived for the 64. Try it before you buy, but keep an eye out for it. -JS

JUMPMAN QUESTION:

I couldn't get Epyx's **Jumpman** to load on my Kernal 1 Commodore 64, even though I tried two diskettes. I wrote to Epyx, but got no answer. -Connie Archambault, Meriden CT

REPLY: That program loads fine for me on the same Kernal ROM, although there is a revised version of **Jumpman** now out, identified by a small gold dot on the side of the box. Most likely your problem is in your disk drive, especially if other programs also fail to load at times. Ask your dealer to carefully adjust the motor speed and to clean and demagnetize the head. To be more sure of getting a reply from companies you write, include a stamped self-addressed reply envelope. Epyx has been around for several years, and is considered quite reputable. -JS

PET EMULATOR QUESTION:

My **PET Emulator** always "crashes" on a Public Domain games diskette. Why? -Connie Archambault, Meriden CT

REPLY: Many games are written in machine-language (for faster action), and the Emulator only fixes BASIC programs. Don't expect it to work with programs that include the SYS or USR command. Commodore Public Domain Educational diskettes also have problems on some 64's, reportedly fixed by a ROM Enhance program available from dealers. -JS

SORCERER'S APPRENTICE QUESTION:

I'd like to see you do a review on Event Horizon's (of NYC) **Sorcerer's Apprentice.** I feel its one of the greatest graphics programs for the 64. -Gerrit Moleman

REPLY: We would if we could find a copy anywhere in Illinois, or if the company would send us a review copy. We'd be just as happy to have you tell us about it! -ES

Ham Notes

BLIPS FROM FRED JONES:

There are a lot of good programs for amateurs out now, designed to improve code and typing speed. I have some programs which figure out the frequency of dipole antennas and how long to make them. Other programs determine the size and spacing of elements on beam antennas. I also made a very good log program and address program from ones in the VIC manual. I'll be happy to send tape copies on request.

Hamtext from Kantronics is excellent on the VIC. Much can be done in code and RTTY modes. The VIC performs well, the keys work and feel good to use and the one-key functions make it just great. My amateur software plugs into the VIC. I can use it to store my sending and receiving on tape from my Kantronics unit. Without good grounding and placing the recorder away from the monitor, it doesn't always store as it should, because of interference with the recorder head. When I first got my VIC, it would also lock-up my Bearcat "210" scanner in the next room, and get into my 2-meter (146.730 MHz) handy-talkie when loading. For amateur radio, grounding is the key.

By talking to other amateurs, I worked out problems in my own system, like using an interface for code and RTTY. Sometimes running the transmitter will cause problems in the TV screen. There are ways to clear this. I use a ferrite loop or a toroid core 1-1/2" in diameter. I place five turns through this loop on my modulator line and use a 2" loop on the VIC power cord with five turns. Placing it in certain spots on the wire will make a difference. Using a monitor that lacks a built-in receiver also helps a lot. Also important is a good ground to all units, and proper placement.

Many monitors do not have an audio circuit. To fix this, connect pin 2 (ground) and pin 3 (audio) from the VIDEO monitor port to to a 200mw pre-amp from Radio Shack. It uses a 9 volt battery, has audio input and output plus a built-in speaker that works great and has a volume control to handle the sound. -Fred Jones, WA4SWF

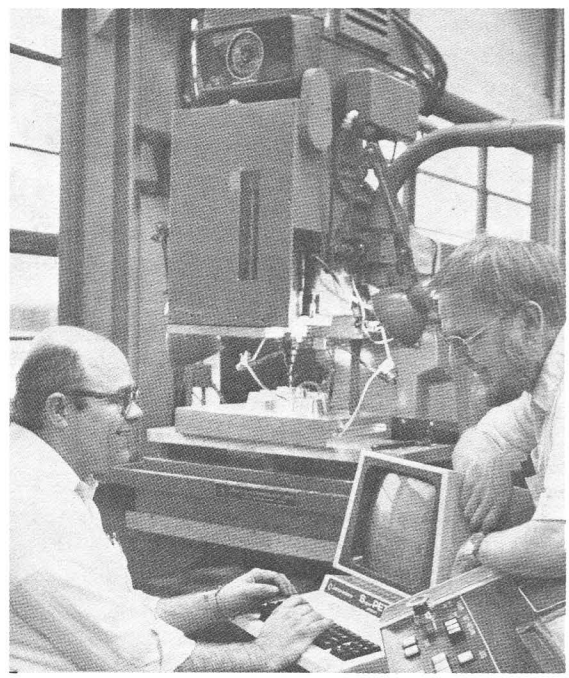
JOURNAL/20 HELP

Journal/20 is continuing its articles on Amateur Radio. About 40% of my subscribers are "ham"'s, and from 30-35% of text space is devoted to this computing segment each issue. -Mike Apsey

Industrial Notes

KARL KIRK USES SUPERPETS IN DETROIT:

One of our Lincoln College Computer Camp attendees, Karl Kirk, is featured here in the AC Spark Plug Division of the General Motors magazine, ACtion. He helped program a SuperPET to control a mill in 3-dimensional mode to produce new and regular automotive parts. -ES



Karl Kirk (left) and Don Payne check the milling program on the computer prior to activating the mill in the background.

Modem Notes

by Tim Tremmel

A lot of people must be setting up CBM/PET Bulletin Boards, judging from the phone calls I have received lately. Most new SYSOP's ask the same 2 questions:

First: How do I get the Program Access Code back?

The latest BB version from Steve Punter (V2.Ø3) omits both the Access Code subroutine and the copy feature when saving in local mode. Both are really unneccessary and take up valuable program space needed for other improvements.

The Program Access Code is not needed since it is impossible to do a file transfer without the proper terminal program anyway. But some SYSOP's want to use the Access Code as a password for user groups who want to restrict program transfer to members only, while leaving the BBS open to the public. If you really need it, add this sub-routine at the end of the program (from an earlier version of the BBS) Be sure to do this to a backup copy!

```
2ØØØØ if pl$=pc$ or in=Ø then return
2ØØØ5 gosub 3: x$="Program Access Code ? [reverse field letter c]": gosub 4: gosub 6:
if s$="" then gosub 851Ø
2ØØ2Ø if s$=pc$ then pl$=s$+"": return
2ØØ3Ø gosub 3: x$="Incorrect Access Code!": gosub 4: gosub 851Ø
```

```
Then 1) Add to line 42   pl$=""
     2) Add to line 11   pc$="PASSWORD"+""
     3) Add a line 51Ø5 gosub 2ØØØØ
     4) Change line 55ØØ to read:  gosub 2ØØØØ:gosub 1120:sl$= "Save":gosub 5Ø9Ø
```

To get the reverse letter c in line 2ØØ5, hit RETURN after the "?" character. Cursor back up to one space past the ?, hit the <rvs> key and type the letter c (in lower case). Now type the shifted <rvs) and continue the line as usual. We want a reverse letter c, NOT a letter c with the <rvs> on and <rvs> off characters on either side.

Second: How do I save programs in local mode for the users?

To save a program in local mode is pretty easy once you get the hang of it. Unfortunately, the instructions hardly explain it. First list the directory of the proper diskette containing the programs you want to save. Write down the program name, its block count and file type (pgm, seq, or WordPro file). In the BBS, type SAVE. You will be asked for the information you just wrote down, which will be put in a file for later use. To copy the programs themselves, you (as SYSOP in local mode) must type the copy command in upper case only, from the keyboard. (Example: copy dØ, "program name" to dl, "PROGRAM NAME") This is because all programs available for downloading must be all in caps. Anything that a caller uploads is automatically converted.

ON MODIFYING THE BB PROGRAM:

Various SYSOP's have modified the program to add other features, and added their initials to the version number. On my own BBS for instance, I moved the up/download to a different program that is loaded and run with the SAVE, LOAD or DP command, to make room for other features. When you are through, you can sign out as usual or type BBS at the command prompt to return to the main BBS. I'm not trying to encourage you to tamper; the program as sold is crash proof, barring power failures or memory problems. If you mess with it, you open yourself to all sorts of problems. But if you like to change things, then study the program first to determine what it's doing and where, work slowly, and keep your changes or additions small. Above all, DON'T mess with the program VARIABLES.

BULLETIN BOARD NEWS

Software Shoppe BB, Keith Peterson SYSOP, 312/658-7320, 8PM-12 NOON.
May not answer until 4th ring.

Our apologies to those trying to use our Lynx-Line BB. It didn't like our PETscan system, and we had to find another way to connect it (See separate review).

COMPUSERVE NOTES

Here's the latest "e-mail" from Jerry Key, about Compuserve. The message was loaded directly into **Paperclip** disk files from a Tandy 100, via STCP from Eastern House. -ES

DEAR JIM AND ELLEN,
WELCOME TO COMPUSERVE! I AM TESTING THE LATEST VERSION OF VIDTEX.C64 AND IT IS LOOKING BETTER EVERY DAY. THERE CONTINUE TO BE SOME PROBLEMS WITH THE PET/CBM VERSION IN SUPPORTING THE WIDE ASSORTMENT OF INTERFACE DEVICES OUT THERE BUT DUANE IS SLOWLY WORKING THEM OUT. SOME OF THE NICE THINGS WITH THE 64 VERSION IS THE ABILITY TO CHANGE BACKGROUND, BORDER AND TEXT COLORS AT ANYTIME.
WILL BE SOME GRUMBLING WHEN PEOPLE USE IT TO DOWNLOAD FILES THAT HAVE BEEN PUT UP USING A PSEUDO PROTOCOL. HOPE THE CBM SYSOPS CAN DO SOME CONVERSIONS ON THEM AS SOON AS THIS IS OUT. IF YOU NEED ANY SHORTCUT TIPS ON THE SYSTEM, PLEASE LET ME KNOW.
BEST REGARDS TO BOTH,
JERRY

UPLOADING WITH TERMINAL.64:

The **terminal.64** program apparently has problems in uploading programs. It looks as if the bad blocks are being signalled for, but not being resent like they should be, and such programs will be left incomplete. If you get a really good connection, chances are the upload will go OK. If you get a lousy connection and a few bad blocks, it's not OK. The biggest problem with the download is G/B SIGNAL LOST. One cure for this might be to have the program automatically shut off the screen before the download process and turn it back on afterwards. You can shut the screen off with POKE 53265, PEEK (53265) AND 239 and turn it on again with POKE 53265, PEEK (53265) OR 16. By shutting off the screen, you'll be giving the processor some time to do other things. -Tim Tremmel

REPLY: The version of **terminal.64** on Commodore Chicago's BB is not Keith Peterson's version, and has several garbled lines. (At least the person who ruined it put his own name on it as "author.") The "official" one ($15 from Midnite Software) works as far as we know. -JS

VICMODEM WITH TERMINAL.64 & TERMINAL.VIC?:

Does Steve Punter's terminal program, adapted to the VIC and 64 by Keith Peterson, use the **VICmodem**? Is it compatible with the **C64-Link**? -Gary Stone, Annapolis Junction MD

REPLY: Yes, **terminal.64** and **terminal.vic** use the **VICmodem.** The **C-Link** should be compatible, although you may have to use its relocator. Both programs, along with a version for larger Commodore computers are included on **The Terminal Disk,** which I put together at Keith Peterson's request, to relieve him of requests for copies of the programs. I ask $15 per copy, including diskette, mailing, etc., and usually send the diskette the same day I receive the order. The last update was July 8, 1983.

WHICH MODEM TO BUY ?:

I've heard the **VICmodem** has some sensitivity problems. What type MODEM would you recommend? --Trin Wooten, Rossville GA

REPLY: The **VICmodem** is a cheap modem. It reportedly works best on the series 500 Western Electric pushbutton phones, but still isn't as sensitive as some other MODEM's. At the moment, my favorite MODEM is the D.C. Hayes **Smartmodem 1200.** It costs as much as six VICs, and needs an RS232 interface to the VIC or 64, but does everything a good MODEM should. Commodore's **1650 MODEM** is newly available, at a very attractive cost. It is more reliable than the **VICmodem,** plugs directly into the wall and has automatic dialing. -JS

APL-COMPATIBLE PRINTER?

I am trying to purchase a printer that will print the APL character set. Do you know of an APL-compatible printer for under $1,000? -Tony Klinkert, Carrollton TX.

REPLY: The Epson FX-80 should meet your needs at a list price of about $650. It includes the ability to down-load any character set from a computer into its memory. You will, however, have to design the APL characters once yourself, and then load them into the printer each time you turn it on. -JS

COMMODORE GRAPHICS WITH A TALLY PRINTER?

Can I use Cardco's **Printer Utility Package** to print Commodore graphics on the **Mannesmann Tally MT180-L** printer? Its ad claimed "Epson code response." -Trin Wooten, Rossville GA

REPLY: Sorry, the Tally isn't listed as compatible in Cardco's literature. However, if it truly accepts Epson's Graftrax commands, it will work anyway, according to Ed Lippert, President of Cardco. Check with Tally to be sure (8301 S. 180th St., Kent WA 98032 (205/251-5524). -JS

NARROW FORM-FEED ENVELOPES FOR FX-80?

I can't find **continuous form-feed envelopes** narrow enough to fit in my **Epson FX-80** printer. Its maximum is 10 inches and the narrowest carrier is 10-5/8. I can do labels, but that doesn't look professional. Any suggestions? -Connie Archambault, Meriden CT

REPLY: Press-on mail labels may not look professional, but neither will dot-matrix printing on envelopes. A quick worker can apply them almost as fast as the Epson prints them. You could ask your dealer about trading in the **FX-80** on the newly announced **FX-100**, which has a wider carriage. If looking professional is worth $3,000 to you, trade up to a daisywheel printer with an envelope feeder. -JS

SCREEN DUMP FOR 64/FX-80/CXC401-B?

Does anyone have a **screen dump program** to use **with the 64** and the **Epson FX-80**, using the **CXC401-B** interface from ECX Computers? -Connie Archambault, Meriden CT

REPLY: Cardco Inc. includes a high-resolution screenprint program suitable for the **Epson MX-80** with Graftrax in the manual for its **Card/?** interface. It should also work on the **FX-80**, which recently replaced the MX-80, and I imagine it will also work on your **ECX** interface. Cardco has also announced a new model G that allows the FX-80 to directly print Commodore graphics. -JS

SUPERCORD WITH TYPETRONIC?

"Can a Supercord interface to the 64 be used with a 3 year old Smith Corona **Typetronic** typewriter that has no computer port?" -Keith W. Klarin, Shrewsbury NJ

REPLY: The **Supercord** interface to current **Typetronics** has 2 parts, one a board that goes into the typewriter box, and the other a box connected to the board on one end and to the 64's user port on the other. However, connecting via the user port may be a bad idea. Only one of the text editors we recommend (**Totl Text**) works with the **Supercord** interface. Far better would be a substitute which attaches to the serial bus used by Commodore's own printers. Unfortunately, **Supercord** does not offer that option, and we know of no alternative interface to the **Typetronic.** With the price of printers dropping rapidly, you may find it cheapest to buy a new printer that plugs directly into the 64's serial bus, such as Cardco's "LQ-1". -JS

WHICH PRINTER TO BUY WITH SERVICE?

From what I've read, **Tally printers** are trouble-free and sturdy, and Tally provides maintenance. Can I expect any extra service or help by paying a local dealer $400 more for the same printer than it would cost via mail order? Are there that many **problems interfacing and operating a 64 with a non-Commodore printer**? And if I have problems, can I **get help** via the **Commodore Information Network** on **Compuserve**? -Trin Wooten, Rossville GA

REPLY: Tally printers are among the most durable of all, according to a Tally repairman we know. Tally will repair your unit within a few hours if you're willing to pay the fee, which may even include air fare. Buying from a local dealer who has used the Tally with the 64 may be worth an extra few hundred dollars. BASIC interfacing to the 64 is simple, via a **Card/?** or similar serial bus interface. But full control of graphic features is difficult on any printer. If graphics are important to you, look at Epson's **FX-80** or C.Itoh's **Prowriter.** Both are already supported by current models of the **Card/?** interface. As for the Network, don't expect Commodore to want to help you hook up a non-Commodore printer using a non-Commodore interface, no matter how you contact them. -JS

Publishers Notes

by Jim Oldfield, Jr.

PREDICTIONS?

The next two months will show an amazing event. There will be a tremendous shortage of peripherals. Then as Christmas arrives, equipment prices will drop, but demand will dictate how Commodore views it's approach to the people. Commodore will announce a 256K machine early in 1984, non-compatible with the 64, that will retail for around $400 (before discounts). It will be an interesting machine.

Commodore will have one base machine for the masses. There will be no high end machines from Commodore, nor support. Just as you purchased your Atari VCS, so will you purchase Commodore. You will only be able to buy Commodore equipment at discount retailers. Any third party software or hardware will be purchased at your local dealer or by mail. In spite of all this, 52% of all installed units will be Commodore.

Commodore will have already discouraged their remaining computer dealers by year end, and then discover the mass merchants are no longer willing to co-operate with them. Commodore's fate will be dictated by whims of public buying habits. No one can be all things to all people. "Oh ruler of Commodore, the king is dead; long live the king." -JO

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THE COMPUTER OWNER'S FACTS OF LIFE, by Robert Sims (The 8-Bit Bozart)

#1: Once you buy a computer, you are on your own. Commodore and your dealer are not in business to teach you to use your computer. Commodore is in business to sell computers to dealers. Dealers are in business to sell computers to you. Period. If your dealer treats you like a life-support system for a wallet, you have a simple alternative: Find a dealer who treats you like a human being. There are lots of good dealers out there.

#2: Commodore and your dealer more or less want you to be happy with your computer. Because if you're not happy, you might talk your friends out of buying a Commodore. If one customer is unhappy, they aren't worried. But if a thousand customers are unhappy, then Commodore and your dealer are very unhappy, because they don't make as much money. This means that you alone do not count for diddly-squat. You are a statistic.

#3: Corporations and businesses listen to two things. They listen when their accountants tell them that profits are in the pits, and they listen when a thousand customers all scream about the same thing at the same time.

#4: If you have a computer, then it is too late for you to influence profits. So if you are unhappy, all you can do is scream.

#5: You have to scream about the right things, like rotten documentation.

#6: Screaming because you don't know how to use your computer is the wrong scream. That is not Commodore's problem, nor is it your dealer's problem. That is your problem.

#7: You can learn all you need to know without going crazy or spending a fortune.

FLATTERY WILL GET YOU EVERYWHERE

It can be flatly stated that any article or endorsement by Jim Butterfield or Jim Strasma carries with it the ultimate in credibility. -Dennis Cumberton (Comm'Putoy Cult)

FOR THOSE USING CASSETTES

"I'm a tape-wad." -Joe Ortiz (WIPUG Newsletter)

GOING, GOING ... DOWN

"Prices for computers in the last year have come down faster than a **DC-10.**" -Charles Robinson (CUG-St. Louis newsletter)

THE MOON AT MIDNIGHT...:

Hasn't anyone told you that the only places in the world where you can see a crescent moon at midnight are the north and south poles? How about putting some polar bears and penguins on your covers? -Harriet Miller, Clayton GA

[Thanks a lot for the info! Take a look at our cover this month... -ED]

SO MANY PROGRAM UPDATES...

We spend more time reading magazines for corrections to previous issues and other publications than we do on the articles therein. I've about decided to wait till I get about 2-3 issues after I find a program I like and then go back thru later issues to see if there are corrections for it. -John Schleppenbach (WIPUG Newsletter

USER-FRIENDLY COMPUTER

All this about friendly computers is a lot of sales baloney. There are just two ways you can have a truly "user-friendly" computer. The first is to have enough money to buy expensive software, or hardware costing much more than the 64. The second way is to gain a good working knowledge of your system, which doesn't make the computer user-friendly, it makes you computer-friendly. -Robert Sims (The 8-Bit Bozart)

Specialty User Groups:

ATUG REQUESTS:

Could you review procedures for getting programs from the ASM/TED user group? -Gary Stone, Annapolis Junction MD

REPLY: Try praying. We've been hearing from everywhere that Brent Anderson is WAY behind on sending out lists of programs and sometimes behind on sending the diskettes themselves. He means well, but is swamped with his regular work as a pastor. Any ideas? (His address is 200 S. Century, Rantoul IL 61866.) -JS

Area User Group News and Newsletters:

CALIFORNIA:

C.A.C.T.U.S. (California Area Commodore Terminal Users Society), Box #1277, Alta Loma CA 91701 is a new Commodore users group in Southern California. Darrell Hall, membership chairman reports they have been in operation for four months in the west end of San Bernardino County and are exclusively Commodore.

Tom Herman, 17902 Baron Circle - #1, Huntington Beach CA 92647 (714/842-3876) would like to hear from any Commodore user group.

The **San Diego Pet Users Newsletter** is a fine new resource for Commodore users, that comes from the **Comm'Putoy Cult** users group (that name took some thought!). JO reports it's a bit more technical than On Line and appeals to more advanced hackers. To see a sample, write Box 7776S, San Diego CA 92107 (include postage and handling $$). Member Don Johnson stopped in to visit JO's store, MicroPace Computers, recently.

The Users' Port is the name of the **San Fernanco Valley Commodore Users Group** newsletter, c/o Tom Lynch, 21208 Nashville, Chatsworth CA 91601. Newsletter editor is Steve Botts. This 8-page paper comes with the $10 annual group membership fee and right to copy public domain programs. Read a few choice quotes elsewhere in this issue.

NEW JERSEY:

The **ACGNJ PET/VIC/C64 User Group** has 110 members that meet every 4th Friday; about half have 64's. Contact Joe Pylka, 30 Riverview Terrace, Belle Mead NJ 08502 (Compuserve 72345,1601). He reports, "Professionally, I take care of about 50 PETs in the Psychology Dept. at Princeton University. They're used in teaching and research (lots of interfacing). I have interfaced Upgrade and 4.0 PETs to video monitors. Would a short article with schematics be useful for the Midnite?" [Sure! We're always looking for articles. -ED]

MISSOURI:

The PET Set is now the **Commodore Users Group of Saint Louis** - for all Commodore users. A very nice 24-page monthly newsletter oriented to beginners comes with the $15 membership.

NEW MEXICO:

On Line is a newsletter published by the **New Mexico Commodore Users Group.** It costs $1 from 6212 Karlson NE, Albuquerque NM. JO says other groups should read it and "eat your heart out."

PENNSYLVANIA:

The Westmoreland Commodore Users Group, Greensburg, PA 15601 reports it provides its members discounts via bulk purchase whenever possible. To date, they have been very successful in dealing with Compute! and Creative Computing for 30% to 50% off.

UTAH:

A 64 user group in **Clearfield UT** recently sent us a sample newsletter, edited by Richard Nelson (phone 801/731-4307). It included an original program and two copied articles on Commodore from the Wall Street Journal, along with the usual hints, hello's and opinions that make user groups a prime examples of American life at its best. We were pleased to note a TV station there has a free MODEM bulletin board of current news (801/237-1531).

CANADA:

Editor Gail Hook reports the new **BUG (Barrie User Group)** club is up to 100 members since June, and planning a bi-monthly newsletter. They are located at 58 Steel St. in Barrie ONT, L4M 2E9 CANADA. The newsletter includes a column of "Opinions by Butterfield" that includes this gem. "There will always be 10% of a computer class who will outstrip the teacher. Look for a teaching style that allows you to guide, direct and give insight, but not necessarily do better than your students."

Don Bidgood, 64 coordinator of the **Nova Scotia CCUG**, 25 Medford St., Dartmouth NS, B2Y 3C2 CANADA, sent us a copy of their bi-monthly **Diskuss**, a balanced and useful ditto'd newsletter. His main reason for writing is to ask our help in fixing, or at least finding, 1541 disk drives. Seems we're the only magazine to note there are problems with the beast.

[Don, we bear good news, we think. Micro-PACE Computers here just got 4 dozen drives. The circuit board is still Revision C in a tan case, but with several added components fastened here and there, and an EPROM. The drive works very well so far with these changes, although loading time is the same. We'll keep you posted. -JS]

VIC 20 Notes

AUTO-START PROGRAMS?:

I seem to recall reading of "auto start" or "boot" tapes for VIC - do these exist? If so, can you tell me what they are and what their purpose is? -Fred Henneike, Tucker GA

REPLY: Yes, **Terminal-40** is an example of one. They load into the stack and modify where BASIC goes after a load. The purpose is usually to keep you from copying the program. -JS

HEAT PROBLEMS SOLVED

Jim Baxter, a Houston, Texas hardware hacker has recently demonstrated his answer to the heat problem that has been getting users of older VICs hot under the collar. His solution is an easily installed passive heat sink kit complete with heat sink lubricant. Jim says that tests show a heat decrease from 140 degrees to a cool 90 degrees. Users also report an unexpected extra: improved picture quality! Apparently Jim's heat sink also acts as an RFI (radio frequency interference) sink. Jim is marketing his kit for $20 retail through his B.Nice Company (713/721-2302). -(Hardcopy)

HOT VICS

"The hots in your OLDER unrevised VIC's (model E) may have dried out your electrolytic power capacitor by now. If your screen is getting hum bars creeping vertically across the picture, the filter capacitor may be going bad. Replace with one of higher capacity and voltage. Be sure it fits and that it is installed in proper polarity. They can explode if voltage is reversed." -TPUG in Commodore Newcomers Newsletter

INTERFACING THE SAME PERIPHERALS TO TWO COMPUTERS?:

"I have a 64 and want to purchase a VIC, which I plan on expanding to the max. Since almost all peripherals are the same, I would like to connect them both together. Do you know of an interface that would give me the most use from both computers? I have the MODEM, VIC*tree, CP/M and Datasette. Are they all adaptible to the VIC?" -Terry Hall, Glendale AZ

REPLY: You can connect a VIC and 64 together on their serial bus via a VICswitch or similar unit, for about $15Ø retail. This will allow them to share one or more disk drives and a printer or two. CP/M and the VICtree should still work on the 64 with the VICswitch, though you may have to avoid trying to use the disk or printer from the VIC while CP/M is active on the 64. Neither will work on the VIC, although a version of VICtree for VIC is available. As for the MODEM, both can use it, but only by moving it from one to the other. We also have a VIC and 64 sharing a Panasonic "Omni" monitor, which has two monitor inputs. On expanding the VIC: since you already have the 64 for large programs, a 16K RAM expander and a multi-slot cartridge holder may be all you need. -JS

MEMORY EXPANSION LIMITS?

"I am interested in expanding the memory of my VIC as much as possible. I've seen advertisements offering from 32K to 64K, such as **Ramax**, which says it will expand to the maximum 32K for a VIC, and **Protecto**'s 6ØK memory expander, or **Select-A-Ram**'s 64K. Can the VIC be expanded to 64K or only 32K? -Ed Elliott, Valley Head AL

REPLY: Like most 8-bit microcomputers, the VIC can directly address 65,536 (64K) memory locations. Any others have to be addressed through a form of trickery known as bank-selecting. Further reducing the useful memory capacity is the computer's need to use some addresses for its own purposes. The BASIC language and operating system, for example, consume 14K in the VIC and 18K in the 64, plus using up some addresses as they work. Still other addresses are reserved for special purposes, such as plug-in cartridges or machine-language programs. That's why the 64K Commodore 64 has only 38K bytes left for easy use from BASIC when you first turn it on.

If you want to use all your added memory easily in BASIC, the maximum capacity of the VIC is 32K of RAM memory. However, add-on memory boards for the VIC often let you change a switch and re-address some of the added memory to hold copies of cartridges. Others just include enough memory to cover the 8K of memory reserved for cartridges too, for a total of 4ØK. If you get a 64K add-on board, you'll be somewhat like the 64 owner - limited to 32K for BASIC, but able to get at most of the rest of the memory in machine-language programs. Few commercial programs for the VIC need more than 16K of added memory, and that is all we have added to our own VIC. To add any more would bring the cost too close to that of a 64. -JS

VIC MICROMON:

Fox 2Ø, in co-operation with CHUG, has announced the availability of **VIC Micromon 1.2.** Works with tape or disk, and can be used to burn both 2516/2532 and 2716/2732 EPROMS). It's the best VIC machine language monitor around. Send $4 (copy fee) to CHUG: VUØØ1, c/o Fox 2Ø, PO Box 5Ø7, Deer Park TX 77536

COLOR TV WITH DATA/20 BOARD?:

I tried the **Data/20 eighty-column board** for the 64, but couldn't even get a picture on my color TV. The dealer said to buy an amber or green phosphor monitor instead. Must I? -Connie Archambault, Meriden CT

REPLY: Yes. The problem is that ordinary TV's are only made to distinguish about 40 columns of text, and you're asking them to handle twice that many when you try to send 80 columns. The only alternative is to use narrower characters, an approach taken by a new program, **Color 80** ($30 from Richvale Telecommunications) that generates 80 columns on an ordinary TV. However, that approach means each screen character is made up of less than half as many dots as usual, making its outline very rough. Go with your dealer's recommendation. -JS

1701 MONITOR VIDEO Update:

Although I appreciated Harold Ratner's reply to my item on the 1701, I was referring to the CHROMA signal, (which is not one of the DIN pin supplied signals). What Harold referred to was actually the composite video on pin #4. Putting the composite video signal into the 1701 monitor CHROMA input does do wonders (put the luminance signal in the 1701 LUMA input), as he said.

The video image of the 64 can be greatly improved by using the luminance and chroma jacks in the back of the Commodore 1701 color monitor. Because the chroma signal is not available at the DIN plug of the current 64 models, plug the composite video plug into the chroma jack of the 1701 monitor, and the luminance signal into the luminance jack. You will want to turn down the brightness and possibly adjust the contrast, but the resulting video image is fantastic! Many more combinations of character and background color are sharp and readable.

The cable that comes with the 1701 monitor has only two plugs, one for the audio and one for composite video. You will need a cable with a 5 pin DIN on one end and four (quad) RCA PHONO plugs on the other end. If the RCA plugs are not already marked to match the DIN pins, trace them out using an OHM meter and the diagram on page 395 of the 64 Programmer's Reference Guide. Remember that the pins in the DIN plug are not numbered in sequence and that the diagram in the book is a mirror image of what you see when you look at the DIN pins. Of course, by now some companies are selling this cable. My thanks to several friends who passed this tip on to me, so that I can pass it on to MIDNITE. -Gary Stone

I still hope someone will show how to "safely" connect to the PC board to bring out the CHROMA, shown on the schematic in the 64 Programmers Reference Manual, so that it can be plugged into the CHROMA of the 1701 color monitor. Then us old timers with 5 PIN DIN C-64's will have video equal to that of the newly arriving 8 PIN DIN C-64's. -Gary Stone

64 HOOKUP TO MONITOR CLARIFICATION:

Reader Tim Bartels reported to the Torpet that he trashed a 64 following a Torpet article's instructions to use a Radio Shack #42-2371 cable to patch a 64 to a monitor. His letter claimed our last issue gave the same advice. Actually, there is a significant difference, in that a RS 42-2371 is an RCA phono to bare wire cable, while the recommendation in **Midnite 14** and above is a 5-pin DIN to 4-conductor RCA phono. Though Tim credits the audio cable for the failure, we have used 3 cables identical to those recommended for a year without incident here. They differ from Tim's in that they are already properly wired and insulated, and thus less likely to be wired so as to cause a short. Radio shack has no comparable cable. Ours came from Warren Radio, 800 S.W. Jefferson, Peoria IL 61600. They have thousands of happy customers for these $10 cables and will gladly sell to other users and dealers. We're sorry Tim had troubles, but don't feel Midnite's advice is comparable to what Tim cites from Torpet. -JS

COMMODORE REVIEWS

Book Reviews

THE EDUCATOR'S UNAUTHORIZED MICROCOMPUTER SURVIVAL MANUAL, by Marcella Pitts, Council for Educational Development and Research, 1518 K Street N.W., Suite 206, Washington D.C. 20005. Book for **all computers.**

A small, cleverly written paper-back, jam-packed with useful information, obviously written by an educator experienced in micros. Included are many excellent lists, such as 16 criteria for purchasing hardware, 12 questions to ask prospective computer vendors, 5 steps for planning a school computer program, and 55 questions in 8 categories for evaluating educational software. The best nitty-gritty book I've seen, far superior to those 4 times its size. A MUST for any school just going into computing. -Elizabeth Kaspar

ELEMENTARY COMMODORE 64 Errata, by Bill Sanders.
See under Commodore 64 Notes.

I SPEAK BASIC TO MY VIC, by Aubrey Jones. Teacher and student manuals for **VIC.** From Hayden Book Co., Rochelle Park, NJ . 1983. With ditto masters.

This book, like others in the series, offers an unusual format. Each page features only one concept in large, bold print, with much white space and a black border; they make great class overhead transparencies! Each BASIC concept is clearly presented, with good examples. Teaching suggestions are printed in the spaces of the teacher's manual. I found it excellent for adult classes. Young people, however, probably would find the lack of pictures and repetitive format dull. -Elizabeth Kaspar

MICROCOMPUTERS CAN BE KIDSTUFF, by A.M.W. Burke. $9 book for **all computers.** From Hayden Book Co., Rochelle NJ. 1983, 172pp.

A well-written, junior high-high school text, with pictures and frequent subheadings. It gives an explanation of computers - macros to micros - and chapters on programming in BASIC and in PILOT (why not LOGO?) The BASIC lessons are good. I question the motivational value of some sample programs; solving quadratic equations and printing words in cosine functions aren't going to excite teenagers. A sound, but somewhat dull introduction to computers, that ignores Commodore BASIC. -Elizabeth Kaspar

STIMULATING SIMULATION FOR THE VIC, by C.W. Engel. $6.50 book for **VIC.** From Hayden Book Co., Rochelle Park NJ. 91p.

Simulations - yes, stimulating - no! This is a reprint with "VIC alterations" of their 1977 book of simulations in BASIC. In 1977, it was great, but today it's a Model T Ford, without graphics (unless you call a grid with asterisks graphics), and without using the VIC's color or sound. Too bad, because most of the game concepts are excellent and would otherwise compete well with today's games. -Elizabeth Kaspar

USER'S GUIDE TO COMMODORE 64 AND VIC 20 COMPUTERS, SOFTWARE, & PERIPHERALS, by Jim & Ellen Strasma for Consumer Guide. $5 book for **VIC and 64**, from Publications International, 3841 W. Oakton St., Skokie IL 60076.

This is the book Commodore should have packed with the VIC and 64. Excellent information and illustrations, from unpacking your computer and putting it all together to short summaries of useful programs. If I was a Commodore dealer I'd buy a pile of them give 'em away free with the computer, and save myself a lot of questions. Highly recommended. -Brent Anderson

Accounting and Finance Programs:

THE COLOR ACCOUNTANT, by D. Hock and K. Jones. $75 cassette/$80 diskette for **VIC plus 16K** (coming for 64). From Programmer's Institute, Future House, Box 3470, Chapel Hill NC 27514 (800/334-soft). Requires CBM disk or Datasette and optional 1525 or MX-80 printer. Limited 30 day warranty. Unprotected. Maximum # accts: 99 (9 subcats/acct, 180 max.)

This remarkably complete home accounting system for such a small computer includes 8 sections: record checks and deposits, balance checkbook, record investments and loans, print checks, budget, graphs, bills and appointments, and mail list. It reportedly requires less than an hour of data entry per month. Editing uses the full screen as we prefer, and it is possible to search for a check (just like real life.); it even knows about interest-bearing checking accounts and debit cards. It includes all the important options of a full-blown business accounting package, trimmed to fit ordinary family needs. Even items that normally cost extra, such as an appointment scheduler and mail list are included. For the programmer, the package is both changeable and partly documented. (Do change some of the garish colors in the prompts.) I doubt if you could ask for more power in a VIC program for the home. Highly recommended. -JS

CYBER-FARMER 64, $140 diskette for **CBM** or **64.**
From Cyberia Inc., 2330 Lincoln Way, Ames IA 50010 (800/247-3900). Needs 1-2 1541 disks plus printer. 90 day limited warranty.

The only 64 accounting package we've seen for farm families. Comparable to a General Ledger. With it, you can enter transactions, calculate cash flow, keep an equipment inventory and calculate its current value, and prepare a budget. The program is smart enough to manage loans and handle goods purchased for resale separately. The manual is fairly well done, the product comes from a reputable company, user groups like it, and the CBM/PET version has been quite good. Do get 2 disk drives, as the program suggests, rather than trusting important records to a single 1541 drive. Recommended for farm families. -JS

EZZEPAYROLL.64 for eZZeBOOKS.64, by B. Prouty. $50 diskette for **64** or **PET.**
From B. Prouty, 4921 Newport, San Diego CA 92107 (223-6867 or 273-5438).

The **eZZePAYROLL.64** routine is now ready. Up to 100 employees can be entered and the program can be used independently or with **eZZeBOOKS.64,** posting the checks and payroll information to the ledger accounts. There is also a new and faster version of **eZZeBOOKS.64.** Updated disks will be sent to customers of record for $10 to cover cost of disk and postage. The whole package ledger, journal, accounts receivable, accounts payable, payroll, for both 4032/4040 and 64/1541 is $50. -San Diego Comm'Putoy Cult

FINANCIAL RECORD SYSTEM, $35 diskette for **64.**
Income/expense program from SimplexSoft Ltd., 617 N. Property Ln., Marion IA 52302 (319/377-6655). Unprotected. $5 replacement fee.

This program will code expenses and income into a lot of categories, and can total how much you spent weekly, monthly, on each one. However, it does not ask you if entry is correct. You must use review and edit mode to correct mistake after you hit RETURN. It could be helpful if you have a lot of income or expenses that need to be divided into separate categories. Recommended. -Nita Rybolt

HOME ACCOUNTANT, by Robert Schoenburg et al., $80 diskette for **64.**
From Continental Software, 11223 S. Hindry Av., Los Angeles CA 90045. Requires CBM disk and optional 132-col. graphic printer. 90 day media warranty. DOS-protected.

Not only is **Home Accountant** copy-protected without a spare diskette, it won't run with a write protect tab in place. Only buy this program if you have a spare copy. For $20

more, you get free program updates, and the right to call with questions. The company told Bill McDannell about 26 bugs in the current version. One thing we especially want fixed is the slooooowwwww data entry, and loss of characters when typed before the system is ready for them. No one but 1-finger typists will willingly use it, and the claimed 1 hour a month maintenance time estimate is ridiculously low. On the other hand, the claimed capabilities are amazing, once they get the early bugs are out. -JS

SOMI-CHECK RESPONSE, by Darold Rupp. $30 diskette for **64**:
From Somi Corp., Box 21, Stewart MN 55385.

I regret the reviewer did not have a printer [when reviewing my program, since it] is designed around the printed report (not much of a report can be put on a 40-column screen.) As for lack of interest-add-on in the balancing function, it could be entered in the service charge input as a negative number. What is an interest checking account? Do they also have a service charge? Does the program need an input for interest and service charge? I would be interested in reader reaction.

A check program that merely balances your checkbook is of limited value. By the time you get your checks in the program you could have done it with a calculator. However, the report section is very useful; [it can] sort checks, list them, and add them to find what you paid MA BELL without error. The balancing section ensures that checks have been entered correctly. **Somi Check** has the power to keep track of expenses for a small business. The limits are 175 checks per month, 10 types of account, 10 accounts within each type, and $9999999.99 maximum single deposit. Reports list each check with totals for each account, totals for all accounts within a type and total of all checks. -Darold Rupp, Somi Comp

Data Base Managers and Mail Lists:

DATA MANAGER Update, from Microspec.

UPDATE #1: I have tried with several different sets of data to establish files. The program worked as advertised through many hours of data input and through some browsing, searching, and sorting procedures. However, at some point, my data has always become unusable. One long file was suddenly unavailable, with a "NO DESCRIPTION DISK" error message. Other files have individual records with a "STRING TOO LONG" error message when used with the browse, search, or sort functions. Both result in useless files.

My attempts to communicate with Microspec have been frustrating. Phone calls failed to find anyone who would discuss the problem. A long letter netted a response blaming the problem on the brand of the sample diskette I sent. (I have used at least two different brands of diskettes with this program and I have never had a diskette failure with any other software!) The letter further stated that "all functions in the **Data Manager** work according to instructions" and "we have thousands of satisfied users." I would like to communicate with a user who can help me; otherwise, please warn others that there may be a problem here. -Barbarie Hill, 833 Rosetree Ln., Cincinnati OH 45230

UPDATE #2: After our review of the **Data Manager** last Spring, their Richard Williamson asked us to review a revised copy. We did that, and sent a list of troubles we uncovered to Williamson, hoping for further improvements before publication. Unfortunately, five months have gone by without a reply, so here are our findings: 1) Two tries at CReating a database crashed early on. 2) After running CReate, ADded info does get saved, but only after repetitive thumping of the drive, and the disk error light goes on and stays flashing. 3) We never saw disk errors being noticed, a fatal flaw in a business program. 4) After attempting to SEarch for field 1 to be "eq" to something we knew would match, both databases we tried crashed quickly with an "illegal quantity error in 26126". 5) There is no way to BRowse or SEarch through data in KEY order. 6) The program uses inherently-unreliable Random files. 7) Commas or cursor controls are not supported; other problem characters are not disabled. 8) We found no way to replicate redundant data. In summary, the program is pleasant in appearance, controls the screen well, has many good touches, and the new manual is vastly improved over the old one. Even so, still definitely not recommended. -JS

HOME OFFICE, by Navaho Software. $30 cassette for **VIC+8K.**
Text editor and phone list from Creative Software, PO Box 4030, 201 San Antonio Circle, Mountain View CA 94040 (415/948-9595). 90 day limited warranty.

This package consists of two small programs, neither of which would receive much attention alone. One is a phone list; the other a mini text-editor. If $30 is all you have, get my Mike Richter's **Word Processor** and Greg Yob's **Phone list** from a user group instead, and keep the money. Not recommended. -JS

MDM DATABASE MANAGER, $100 diskette for **64.**
From Mirage Concepts, 2519 W. Shaw - #106, Fresno, CA 93711. One backup copy $5. Needs 1541 or 2031 disk drive and optional serial bus printer. Machine-language. DOS protected. 90 day media warranty (plus free updates). Fields up to 250 characters long, Records up to 2,000 characters long, up to 200 fields per record, up to 65,535 records per file.

REVIEW #1: Unlike most competitors, MDB is written entirely in machine-language and includes many features we recommend in a data manager, such as free-form screen design, flexible arrangement of fields, sorts on any combination of fields, built-in math, condition tests, ability to select records with common contents in a selected field, bulk replacement of field data, easy updates of multiple records, and huge size limits. Forms may be up to 60 lines long. Has a built-in label maker. A hundred major software houses should buy the package just to see a good manual! The program operates strangely with the 4040 via either Interpod (which the company will not support) and the C64-Link (which they do support.) Anyone suffering a disk error during the creation of a form will have to start over. You can re-use a form in a new database, by creating a subfile with no records, but we couldn't modify the form even slightly without creating a new one from scratch. To restructure a database, you create an appropriate new form, then merge information from the existing file into it. We wish cursor UP and DOWN could work normally. Overall, powerful enough to merit consideration alongside the very best data handlers for the 64. Recommended. -JS

REVIEW #2: Sorts are rapid but not extremely fast. With 57 records, both a zip code sort and an alpha sort required 22 seconds. The program uses relative files and sorted keys. Response is fast and the program is easy to use. Highly recommended, but be sure to send $5 for a backup. -Larry Woolard

REVIEW #3: My initial impression is quite favorable. Its unique feature is its record size. A real estate agent, keeping track of various properties, can insert a narrative field to fully describe the property, and the scientist searching journal articles has space for a brief abstract of each article. Superb manual! -Ed Crossman

M'FILE, by Mark L. Gorat. $100 diskette for **64.**
From Double E. Electronics, 12027 Pacific St., Omaha NE 68144. Requires 1541 disk and Joy port 1 dongle. Anti-warranty.

This program was initially popular with users. Later, dissatisfaction crept in. In our recent user group survey, it scored only 5.5 on a scale of 1-10. The program does not allow lower-case in data. It also defines fields one at a time rather than with a screen forms editor, and won't let you move them horizontally on the screen. But the real lack is in reliability. Of 3 records typed in and saved, only one was ever seen again, and it came back short one field. (As I suspected, it uses random files.) Since no errors were reported, I must conclude it either didn't notice or didn't care about lost data. It also didn't bother to re-enable the STOP key at the end of the program. Not recommended. -JS

MICROBASE, by Daedalus Digital. diskette/cassette for **64** or **VIC+8K.**
From Arfon Microelectronics, 111 Rena Dr., Lafayette LA 70503. BASIC. No warranty.

About all you can expect from a data handler written entirely in BASIC and plagued by garbage collection delays. Allows you to define fields, but does not allow you to create a form. Limited to 12 fields per record, 87 characters per field and 174 characters per record. You can create print templates in just about any fashion. Searching and sorting are allowed on any one field. Adequate but not inspiring. -Larry Woolard

THE ORACLE Update, by Dieter Demmer.
From Batteries Included, 71 McCaul St., Toronto ONT M5T 2X1 CANADA (416/596-1405).

The new manual is excellent. "Supersort" sorts files too large to sort normally. Arithmetic on field data is now supported and the bugs are gone. Highly recommended. -J.P. Dellow

OZZ Update, for **8032/8096.**
From Commodore, 1200 Wilson Dr., West Chester PA 19380. Requires 8050. Protected.

OZZ is a fast, powerful data base that comes with two copy-protected diskettes. One file can contain about 2300 records of 80-character length. An easily used screen editor formats new files. Conditions can be set in a field for selected print-out. Our C. Itoh Prowriter/CMC interface works fine with it. **OZZ** also has a "calculator" and will not sort except in key field order (the first field), which is very limiting. -Michael Bertrand

TOTL.LABEL 2.6 Update, $20 cassette or diskette for **64** or **VIC.**
from TOTL Software, PO Box 4742, Walnut Creek CA 94596.

My wife (who despises computers) typed in over 1000 addresses in just a few evenings with very little pain. My only complaint: I wish you could sort by any field instead of just the first. Otherwise, excellent! -Mark R. Brown

Electronic Spread Sheets:

BUSICALC Update
From Skyles Electric Works, 231 E. South Whisman Rd., Mountain View CA 94041 (415/965-1735).

I am underwhelmed. Nowhere near the power of other spreadsheets and it is slow, slow, slow. I wish I could return it. -Kenneth Manuelian

PRACTICALC 64, by Sandy Ruby. $55 diskette/cassette for **64.**
From Computer Software Associates, 50 Teed Dr., Randolph MA 02368 (617/961-5700). Requires Datasette or 1541 disk drive. 90 day replacement warranty. Machine language. DOS protected. Maximum size: 100 columns and 250 rows.

Practicalc does on the 64 almost everything **Visicalc** does on the CBM, at a good price, and in a more refined way. Its screen display is clearer and easier to understand, it allows the first column to be wider than others (for titles), and it only does math on request (saving time). It also adds several excellent new features. Sorting allows you to type information in any order, and alphabetize later. If you "lose" a number on the sheet, the search feature will find it for you. Perhaps best of all, you can leave prompts (messages) where you want someone to type. One other unique feature is the ability to print out spreadsheet formulas, for designing forms. **Visicalc** and **Practicalc** share the same commands and functions, while the cursor controls work normally. You can select up to 100 columns and 250 rows (but only fill about 900 cells). All needed information is in the well-done, compact spiral-bound manual. Unfortunately, **Practicalc** cannot build formulas by moving the cursor, nor can it recalculate by row (just by column). Most troublesome of all is that numbers on the screen are truncated, not rounded, when they don't fit on screen. The 64 version lacks **Visicalc**'s ability to show two parts of the matrix at once (windows). A useful and inexpensive spreadsheet. Recommended. -JS

Word Processors:

HESWRITER Update, $40 cartridge for **VIC** or **64:**
Text editor from HES, 71 Park Ln., Brisbane CA 94005 (415/468-4110).

UPDATE #1: The normally-unreliable "hit" lists in the glossy magazines assure us HESwriter is a top-selling program. If so, I feel sorry for a lot of people. When we first reviewed **HESwriter** last fall (in M/P #9), it was slow and limited, but nothing better was anywhere near its price. Fortunately, times change. Now any 64 owner who buys

HESwriter instead of (in the same price range) **Easy Script** or **Write Now**, has reason to have a good cry. Even **Quick Brown Fox** does more and better. -JS

UPDATE #2: Here are hints on using HESwriter on the VIC. 1) If you save text and the computer freezes before line numbers appear, Preview the start of the text. 2) Save text before printing it. Then when the printer freezes, you still have text to reload. - Jim Mathers (Westmoreland PA)

TOTL.TEXT 2.5 (VIC) or 2.6 (64) Update, by Chuck and Ann Palmer McCarty.
$35 cassette/$39 diskette for **VIC**, $40 cassette/$44 diskette for **64.** BASIC plus machine language text editor from TOTL Software, P.O. Box 4742, Walnut Creek CA 94596 (415/943-7877). Requires 16K added memory on VIC, Datasette or CBM disk drive, optional printer and 80 column board. 30 day media warranty. Unprotected. Size of text file: 29 double-spaced pages. Supports most printers. Interfaces used: Serial bus or user port

UPDATE #1: Volkswagon "Beetle" of word processors. One of only 2 programs for VIC or 64 able to provide true footnotes, easily modified for almost any printer, has nearly all the usual word processing functions and formatting capabilities, and works with all the popular 80-column boards. The only blatent weakness is the editor. Changes must be made within 6-1/2 line blocks. TOTL Software has a good reputation for providing updated versions and other support after the sale. -JS

UPDATE #2: The best inexpensive word processor you can buy. Plenty of room for text. It can also use **TOTL.Label** files. **TOTL.Text** is easy to learn, and comes with some of the best documentation I have seen. The people at TOTL are supportive, friendly, the nicest people you could want to talk to, and they offer discount updates to previous owners. Highly recommended. -Mark R. Brown

UPDATE #3: The latest version adds disk commands, Append file, and a global search, which can be quite time consuming, and a way to start printing from any page. A good program that is continually being improved. -Larry Woolard

VIC NIC TEXT EDITOR, $40 cassette for **VIC.**
Machine-language text editor from Advantage Computer Accessories, 3120 Glen Erin Dr, Unit 5, Mississauga ONT L5L 1R6 CANADA. Requires Datasette.

A fairly simple but workable text editor. It works like, and uses some of the same commands as **WordPro.** However, it does far less overall, and the DELETE key is handled badly (dead unless over a non-space character.) I couldn't delete excess spaces that extend onto a second line. When used with 16K added memory, **VICNIC** has 391 lines of available text in each of 2 work areas on a VIC, enough for about 4 pages of text in each, and operates noticeably slower. The cursor falls up to 6 characters behind when typing quickly, but doesn't lose characters. Block moves are allowed, but up to only 4 lines at a time. Printouts are also primitive, with few available formatting commands - not even right justification. As for files, the expanded version works from disk and tape; the bare version from tape only. The poorly-written manual is badly typeset on cheap paper; using it for reference will be painful. The expanded version has a few other trivial advantages, including one **Word Pro** lacks - automatic indentation of paragraphs. Naturally you can choose your screen colors. Overall, I like **VICNIC** better than some BASIC text editors, but not as well as either **Write Now** or **Totl.Text** at the same price. Not recommended. -JS

WRITE NOW!, by Computer Applications. $35 cartridge for **64** or **VIC+8K.**
Machine-language word processor from Cardco, 3135 Bayberry, Wichita KS 67226 (316/267-6525). Requires Datasette or CBM disk drive, and optional joystick and CBM or ASCII printer. Full warranty. Size of text file: Up to 28,159 characters on VIC. Interfaces used: Serial bus, User port

REVIEW #1: It comes in a cartridge which attaches to the unexpanded VIC and is an excellent word processor. The instructions are simple to use and the program accomplishes anything a letter writer, short term paper, or expository writer would need, to produce hard copy. It doesn't have all the capabilities of the **WordPro** series, but its simplicity allows full use after one hour's study and experimentation. -B.A. Spencer, M.D.

REVIEW #2: Cardco has been the leading supplier of 64/VIC hardware accessories. Their first major program, **Write Now!**, is amazingly good. It is the only word processing

program we've seen for Commodore equipment that's simple enough to use without a manual. It is also the most powerful and least expensive VIC word processor available! (Cheaper programs are text editors, not word processors.) Cardco even used **Write Now!** to write its own 114 page manual, a beautifully clear document with many good hints. The program includes most features of a good word processor, plus such advanced features as a cut and paste buffer, a search and replace feature that can verify each change before it is made, and a control file to print out one continuous 50 page document with a single command. Its form letter-writing abilities are the best of any word processor for Commodore equipment. Only microjustification (the aligning of both margins by adjusting the space between characters within a word) is missing. Two stick-on job aids fasten to the edge of the keyboard, simple keystrokes activate each option, and either the normal Commodore editing keys or the joystick to move the cursor. Formatting includes almost everything offered by more expensive competitors, plus extras like Roman numeral page numbers, true footnotes, and the ability to send any length escape sequences to any printer without interfering with justified margins. Having a red current line is jarring, but other colors are pleasant, and you can select background and border colors.

Write Now! is the single most useful program we've seen for an unexpanded VIC, and is highly recommended, unless you prefer continuous text formatting, or need it to work with a 40 or 80 column board. (An earlier version is sold by Micro Ware Distributing as **The Word Wizard** at the same price; it lacks most of the above advanced features, but includes a simple user port parallel interface.) -JS

Church Reviews

THE GOSPEL OF MARK
$20 diskette for **64** ($35 for both Mark and Luke). From Rev. Daniel Shutters, Zion Lutheran Church, Box 5, Dauphin PA 17018. Unprotected.

The first in what I fervently hope will become a series of Bible study aids. **Mark** is not just drill and practice; if anything, it's a party game. Our Christian friends who see it can't stop playing. Even Jamie (age 7) is determined to "become a Gospel author" (by getting through the program without sinning.) Shutters did it right - had a good idea first, then wrote the program. In **Mark**, you travel with Jesus and observe situations similar to or directly from the Gospel of Mark, and answer questions. Were God's words at Jesus' baptism, "You are my son," "I told you not to get wet," or "Look out below?" Another question asks how you would respond if invited to eat out by two people, one a rich pastor and one a drug user. If you choose as the author feels Jesus would have, you also reminded, "You wound up with a bad reputation - but you're in good company!" Without a doubt, this is the best religious education program I've seen on any micro. Highly recommended.-JS

REVIEW #2: This is the first adventure type game I have seen based on a biblical theme. The program is entertaining and very well done. There are a few surprises and the computer turns out to have quite a sense of humor. Watch for more; if they are as good as this first programming attempt, they will be worth having. Recommended for adults and children who can read. A good knowledge of Mark's Gospel is needed (or learned)! Recommended for adults and children who can read.. -Larry Woolard

THE GOSPEL OF LUKE, $20 diskette for **64** ($35 for both Mark and Luke).
Educational game from Rev. Daniel Shutters, Zion Lutheran Church, Box 5, Dauphin PA 17018. Unprotected.

Fantastic! My favorite religious program has a sequel. It's obvious that Shutters has another great program in **Luke** and gained programming skills; this one has simple graphics. What makes them special is that they reflect the fun and life-loving spirit of Jesus, as they teach about him. Highly recommended.-JS

Education Reviews

For educational books and journals, see Book Reviews and Magazine Reviews.

School Administration

CLASS MANAGER II, diskette for **64.**
Gradebook program from Merlan Scienfitic Ltd, Georgetown ONT CANADA. Unprotected.

This gradebook, in an attractive vinyl binder, takes a maximum of 36 students per class with 25 grades each. It calculates class mean, standard deviation, etc. It is user friendly and can be altered, but has a poorly-written manual (e.g., "This (the weighting) is what the text is out of.") Weights must add up to 1ØØ, but aren't called percentages of total grade. Terms are not defined clearly. Statistically, a major flaw exists: a weighting of X% does NOT =X% unless each grade is first converted to a standard score. A good program once figured out and used with standard scores. -Elizabeth Kaspar

GRADECALC, by Dr. Daley. Diskette for **64.**
Grading program from Tamarack Software, Water St., Darby MT 59829 (4Ø6/821-4596). Requires CBM disk and optional printer. May be backed up, but not listed. Anti-warranty.

Dr. Daley has been known for technically brilliant, but error-filled programs. First his mail list and then his **Wiz** data manager got A+ for aptitude and D- for achievement, despite endless efforts by both Dr. Daley and his customers to fix them. Only **Vanilla Pilot** , Dick's first effort as Tamarack Software, is entirely bug-free - a stellar product. With that reputation, you can see why I quit trying to review **Gradecalc** after finding 4 bugs in the first 15 minutes, from trivial (a line overflow one character too long) to fatal (an improperly opened file and a syntax error). After that, who cares that the program has good specs and a decent manual? Not recommended for now. -JS

MULTIPLE CHOICE, by William L. Brown. $3Ø diskette for **64.**
Test-maker from Midwest Software. Cassette and printer optional. PETspeed. Unprotected.

This is an excellent idea. **Multiple Choice** lets you type in a set of questions and their answers (from 2 to 5 per question, individually variable) in any order, and then have the computer randomly select a portion for each test, with pre-mixed answers. Each question may be up to 5 screen lines long, while answers are just under 1 line. Editing of both questions and answers is very quick, flexible and pleasant. Once a test is designed, it is saved to disk or cassette. Then a separate program reads in the quiz to screen or prints it to paper. When printed to paper, an answer key is printed along the left margin, to be folded under when xeroxing the test.

My complaints stem from its being in PETspeed. Like the first copies of Midwest's **Master Grades, Multiple Choice** crashed early and often, clearly due to simple bugs the user cannot fix without source code. The walk command did not work as described, and crashed with an "illegal quantity" error unless given an explicit question number on which to begin. Repeated walks eventually gave an "out of memory" error. Many times the program died on the first "add" after reloading a data file, just after selecting the number of possible answers for the next question. Also, when the quiz program is used with a 4Ø4Ø and BusCard, all data is taken from drive 1, not Ø.

In the past, Midwest has carefully cleaned up all bugs we discovered, and made source code on **Master Grades** available for $5. I hope the same for **Multiple Choice** after this hits print. It also needs a way to walk alternately backwards and forwards until the desired question is in view. Better yet, how about keeping the questions in relative files, so I can have more than 5Ø in a file? Overall, a good package with some teething problems, but not enough to keep me from using it for my tests this term. -JS

THE OFFICER SCHOOL ATTENDANCE PROGRAM, by Caxton Foster. $130 diskette and backup for **PET.** From Mount Castor Industries.

I bought this program last Summer (1982) to keep New York State attendance for a few months in our middle school and check the results with our manual system. The program finally arrived from Mr. Foster in November, with a backup and nice manual. (You must buy his scheduling program, **The Classifier,** separately if you want to use the same data base for both attendance and scheduling.) On first run the program was filled with errors in line length and words that ran over, the menu page only in upper case, and once I was asked to insert the data disk in drive #2! After a round-trip by mail with a long letter, the disk came back corrected, but with 9 more errors. On the second round-trip, I had to make my own backup and only found 5 locations that bombed. I felt as if I had paid Mount Castor to debug their programs, but I still wanted an attendance program for our PET. When I ran the program for one month (January) and called up the end-of-month summary, it did not match our clerk's record, because treated a tardy student as absent for the day, rather than the required separate category of present and tardy. I also had no way to handle a weather day, vacation in mid week, etc. NOT recommended. -Bob Bergevin

REDIKER ATTENDANCE/REPORT CARD PACKAGE Preview, by Rich Rediker. $850 diskette (each module) for **CBM.** School attendance and report card programs from Rediker Software. Requires 8032 and 8050 or 4040 disk drive and ROM.

First impressions show this to be a well thought out package that will greatly aid the school or District that lacks mainframe power for routine recordkeeping. The **Attendance** program has 3 diskettes and a ROM. The **Report Card** program shares the same student data base, and can be made to print your school name at the top of the report card. I have entered the students' names and printed home room lists; we will use the attendance portion when the back-up diskettes arrive. A teacher himself, Rich Rediker has already trapped most errors, and is VERY helpful when called. The programs are not cheap, but should save us a half-time clerk and do a better job of keeping report cards. -Bob Bergevin for Midnite

Computer-Assisted Instruction

ADD/SUB, $15? cassette for **unexpanded VIC** up to **64.**
Addition/subtraction program from BECI (Boston Educational Computing, Inc.)

REVIEW #1: Good for primary and first grade students. The reinforcement is excellent, because the program will not proceed until the correct answer is given. It might be a little long for some children. Counting is also very good. I like the large-size letters and numerals with the arrow going from right to left in two-digit addition and subtraction. -Geneva Spencer

REVIEW #2: Adjusts to memory available and loads from cassette as parts are needed. Intro is in lower case, for parents and teachers, who must set up the program for their children. Includes a range of options, from a single digit with counting picture, up to 4 digits (including decimals), whether to carry or borrow (with arrow hints), and time variations. Addition goes properly from right to left, gives the right answer after time is up, but the only way you know it's right is that another problem comes on screen. Has nice big bold numbers, drawn properly, but no sound. If you want only one VIC program that covers the complete range of drill problems for addition and subtraction, recommended. -ES

EARLY GAMES FOR YOUNG CHILDREN, by John Paulson. $50 cassette/diskette for **VIC** or **64.**
Pre-school learning exercises in BASIC from Counterpoint Software, Suite 140, Shelard Plaza North, Minneapolis MN 55426 (612/544-4720 or 800/328-1223). Needs Datasette or 1541 disk drive. Unprotected.

A picture menu helps pre-schoolers run 6 different activities without adult assistance once loaded. Choices are: Match big numbers or letters, count, add or subtract blocks, type letters or names, compare shapes, or draw pictures (using the regions of the keyboard like a joystick.) It avoids printed text more than usual. The manual, though readable, mingles instructions for a half dozen computers. The program doesn't use color and sound as well as others. Probably the best such program for VIC, but not for 64. -JS

FLASH 'N SPELL, $15? cassette for **VIC.**
Simple spelling checker in BASIC from Qumax, Box 17010, Rochester NY 14617. Requires datasette. 30 day warranty. Protected.

REVIEW #1: In this strictly drill and practice program, you type in lists of up to 150 words, to be saved and re-loaded. Words flash momentarily (from 1/20th of a second up to 4 seconds) on the screen, for you to spell correctly. At the end, you can get a display or a re-test of words spelled improperly. Beeps on error, but shows no other evidence of graphic design. Characters are buffered, and hitting the wrong keys can be corrected, if you cursor back before pressing RETURN. Nasty keys are disabled. On-screen menus cover its few features well. Less than ideal, but rather good for a 3.5K VIC. Recommended. -JS

REVIEW #2: Attractively packaged, but I couldn't coax the program to function. After loading a menu, none of the Qumax cassettes (Subtraction, Spelling, MIMIMON, Multiplication, Division or Addition) would respond. -Geneva Spencer

FUN FRACTIONS, $20 cassette/$25 diskette for **VIC+8K.**
Arithmetic game (fractions) in BASIC from Taylormade Software, 8053 E. Avon Ln., Box 5574, Lincoln NE 68505 (402/464-9051). Needs Datasette or 1541 disk drive and 8K added memory. No stated warranty. Protected.

Choose elementary or junior-high level problems, and whether to add, subtract, multiply or divide fractions. The program shows a sample problem and works it out, then displays another problem with a question mark in the position for you to fill. Your time limit is marked by the descent of a parachutist. If you get the problem right within the time allowed, the chute opens. If not, he lands on his head. When you do well, the jumper falls faster; when you do poorly, he slows down. The game gives good training in quick calculations using fractions. We liked taking turns with the computer, each doing some problems. The manual is brief but good, with clear type and explanations of how fractions are added, subtracted, multiplied or divided. A bit pricey, but still recommended. -JS

IFR (Instrument Flight Rules), $40? cartridge for **VIC.**
Cockpit instrument flight simulator in BASIC from Academy Software, Box 9403, San Rafael CA 94912. Requires joystick.

REVIEW #1: This flight simulation package was extremely interesting. The younger boys especially found it very fascinating to sit in the cockpit of an airplane and to simulate flight to different airports and encounter different problems. It was very easy for them to enter that imaginative world of flying. -Geneva Spencer

REVIEW #2: **IFR** is a realistic simulation of instrument flight in a single-engine aircraft. The pilot must take off, navigate around difficult terrain, and land at any of 4 airports on the maps in the accompanying booklet. Only major airports have the needed radio beacons for an ILS (Instrument Landing System) approach to a landing, as well as fuel and repair facilities. You can see all instruments used for basic IFR flight on the screen. Full aircraft features are used, with realistic aircraft specifications. A Pause command allows the 'pilot' to halt or continue the action anytime with the touch of a button. An Edit option positions the aircraft anywhere on the course, that lets the pilot set conditions according to flying ability (especially useful for practicing turbulence values). The test copy was flight tested by an air traffic controller, 2 skilled pilots, and an elementary school class. Highly recommended by all. -JS

KIDS ON KEYS, by Frieda Lekkerkerker. $35 cartridge for **64.**
Typing trainer for ages 3-8 from Spinnaker, 215 First St., Cambridge MA 02142. Machine-language. 30 day limited warranty.

This series of 3 children's typing games doesn't teach proper typing habits, but aims for keyboard familiarization. In game 1, the child types the key that matches falling letters and numbers that are followed by a balloon with a word in it. In game 2, the child types the word that identifies colored pictures (or its parts) moving down the screen. In game 3, only words appear, to match one of 15 pictures on screen. 4 skill levels for each game vary the words used and the speed they travel. All games have music, which cannot be turned off for classroom use. Once all are mastered, the child will be familiar with the

keyboard, numbers, letters and words. The program achieves its goals well, although $35 is too much to pay for such brief use. Still, for larger families and classroom use, **Kids on Keys** is a good introduction to the computer. -JS

KINDER KONCEPTS, by Michael W. Horner. $40/diskette ($175 for 6) for **64.**
Pre-school learning exercises (ages 3-8) from Midwest Software, Box 214, Farmington MI 48024. Requires 1541 disk drive. No stated warranty. BASIC. Unprotected. 3 reading and 3 math diskettes available (total of 30 programs).

This delightful set of learning games helps preschool children develop creativity, counting skills and reading readiness. 10 varied activities on our sample diskette: Letter order, Twins, Different, Shape match, Pattern match, Number order, Bug counter, Begin to add (especially well done!), Longest (very nice!), and Shortest (very nice!). Few words are used (mostly in the color-coded beginning "menu"). Each answer is greeted with a big happy (or sad) face. Correct answers are always displayed before being given another problem. In each activity, big shapes or numbers appear in large blocks, with responses recorded and rewarded in a second separate area. Uses lots of bright, nicely balanced primary and secondary colors. After several right answers, the computer flashes colors and briefly plays single-voice children's tunes. Most instructions are in single numbers or letters attached to pictures. Can break out of any individual activity and restart with RUN, but can't get back to main menu until you finish the activity. **Kinder Koncepts** is easier to use and has better graphics than **Kindercomp.** Highly recommended. -ES

KINDERCOMP, by Doug Davis and Frieda Lekkerkerker. $30 diskette for **64.**
Pre-school learning exercises in BASIC for ages 3-8 from Spinnaker, 215 First St., Cambridge MA 02142. Needs 1541 disk drive and joystick. DOS protected. 30 day free replacement warranty.

Another pre-school educational program to develop creativity, counting skills and reading readiness. Drawing uses low-resolution squares in 6 bright colors. Scribble fills a line with the key you press. Names All Over takes an entered word and duplicates it all over the screen in a dozen or more ways and sizes. Number sequence gives 3 tries, then shows the answer. Letters use large letters in upper or lower-case, and ignores wrong key-presses, such as the number one for the letter 'L'. In Match and one other, the reward is the slow drawing of a sprite, which eventually flies away. Music in all options sounds random but pleasant. Only RESTORE+STOP causes a break. Well done, but definitely for the very young. Those who can read game choices may be bored. -JS

MORSE CODE TRAINER Update:

Has limited appeal, but appears to be an excellent way of teaching the Morse Code. -Geneva Spencer

PINBALL MATH, $20 cassette/$25 diskette for **VIC+8K** or **64.**
4-function arithmetic drill from Taylormade Software, 8053 E. Avon Ln., Lincoln NE 68505 (402/464-9051). Requires datasette or 1541 disk drive. BASIC. Protected.

Each drill has 3 difficulty levels. Although problems appear on the back plane of a simple graphic pinball machine, it has little to do with pinball. Answers are entered one digit at a time, in the order in which a student would normally calculate them, including all intermediate steps. Each incorrect digit is carried away by a small colored sprite. If you miss the digit 3 times, the sprite shows the correct digit. When you get the problem right, an extremely brief animated display of a moving pin ball and a few bumpers generates a score based on time taken. Press a function key for the ball launcher to get another problem, or a different key to quit. When you quit, your time and number of problems solved is shown. At the easiest level, directions are offered. No other manual. Another competent but forgettable educational program. (Imagine a real pinball game, where the student must calculate each change in score manually before continuing...) -JS

(BENJI'S) SPACE RESCUE, by ISA. $40 diskette for **64.**
Children's rescue game/solar system simulation from HES, 71 Park Ln., Brisbane CA 94005. Requires 1541 disk drive and joystick. Disclaimer of warranty. BASIC. DOS protected.

In this childrens' game, you and your assistant (a medium-resolution graphic image of the TV dog, Benji) must rescue several scientists from invaders in a limited amount of time. High-resolution multi-color graphics at the beginning show a picture of Benji, and the appearance of each planet, accompanied by a pleasant little tune. The rest of the program uses less impressive graphics. Mixed in with traditional arcade actions of avoiding and shooting invaders while rescuing prisoners is a fair amount of teaching about the Solar System. As in other good educational programs, failure is treated gently. The only negative is that control of the many options by the joystick is difficult. Only a single letter indicates what each option does. Our son had trouble until aided by an adult. However, he still enthusiatically approves the program. Recommended. -JS

SURVIVAL MATH, diskette for **64**.
Math simulation games for grade 7-12 from Sunburst Communications.

At last, 4 creative, interesting and educationally sound math simulations! Tested reading levels are appropriate (grades 5-7), the manual well written, with lists of concepts plus work sheets. In Travel Agent Contest, students have X dollars to spend, must plan transportation, hotels, meals, etc. In the Shopper simulation, the student is timed while selecting economical buys. Hot Dog Stand is similar to **Lemonade**, focusing on profit. The toughest, Foreman's Assistant, uses many kinds of math to determine construction materials and cost. Each wrong answer is measured in days lost on the job. Readability and user friendliess excellent, but why not include graphics? Still, the best math practice program I've seen. Will hold interest well. -Elizabeth Kaspar

TOUCH TYPING TUTOR Update, $20 cassette/$25 diskette for **64** or **VIC**.
19 typing lessons from Taylormade Software, 8053 E. Avon Ln., Box 5574, Lincoln NE 68505 (402/464-99051). Requires Datasette or 1541 disk drive. No stated warranty. BASIC. Unprotected.

UPDATE #1: We need to correct this program 's name as listed in **Midnite #14. Taylormade sells Touch Typing Tutor**, while Academy Software sells just plain **Typing Tutor**, along with **Word Invaders.** After testing both, Taylormade's program is far better for those who are just learning where the keys are on the QWERTY keyboard. If you later want to have fun increasing your typing speed, then Academy Software's **Word Invaders** really shines. **Touch Typing Tutor** should be your first typing program; then buy **Word Invaders** later. -ES

UPDATE #2: Very well done. Good for primary, intermediate and older students, who could use this to learn to type. It is not a "fun" time lesson, but is very solid in its teaching system. As I used program #2, I found my own skills improving as I went through the lessons. -Geneva Spencer

UPDATE #3: For the serious student, this is the best, most pedagogically sound program available. Incorporating a choice of 19 keyboard lessons, practice of pseudo words, or for the more advanced, long text with pseudo words. Not as much fun as **Master Type** or **Word Invaders**, but has no violence (if you goof, you're not shot down). Instead, a typewriter keyboard blinks and beeps with your mistakes. A more complete learning package, with pages of timed practice, rather than just words and short phrases. Were I able to buy only one program, this would be it, but would have more fun if supplemented with one of the others! -Elizabeth Kaspar

TYPING TUTOR AND WORD INVADERS, cassette for **64** or **VIC**.
Typing tutor and game from Academy Software, Box 9403, San Rafael CA 94912. Requires Datasette. 120 day limited warranty. Protected.

REVIEW #1: **Typing Tutor** (side 1) is a conventional typing tutor that simply ask you to copy combinations of keystrokes that appear on the screen. Only in the menu of the 64 version and in the manuals are you shown which keys are assigned to each finger. Typing accuracy is checked after each line. The program properly does not allow you to backspace. In the VIC version, you have to succeed at each level in turn. On the 64, you can select the lesson desired. Both versons use color and sound, but the 64 does more with each. For beginners, I prefer the teaching sequence in Taylormade's **Touch Typing Tutor.**

What makes this package popular is **Word Invaders**, where you fight off waves of invading random English words by typing their names correctly. When the correct next

character is typed, the letter in the invader is shot away. But don't linger; the mother ship is still dropping new words, and the old ones are approaching the ground where they will wipe you out if you don't learn to type faster. Even the VIC version, with its crude graphics is fun, but the 64 version is fantastic. It has good color, detailed sprites, and better sound. Highly recommended if you can type, but need to improve your speed. -JS

REVIEW #2: **Typing Tutor** is good for practice and drill; however, it lacked illustrations for the home key positions on the screen. **Word Invaders** provides a challenge that is enjoyable and a fun way to practice. Children should like it from intermediate age and up. -Geneva Spencer

VIC LEMONADE, $15 cassette for **VIC.**
Economics simulation for 1 or 2 players from Taylormade Software.

REVIEW #1: Yet another version of the Peninsula school economics simulation. This version is nicely polished. Son Jamie likes the version in the 64 bonus pack better, but we don't all have 64's. Recommended for VIC owners. -JS

REVIEW #2: It seemed tiresome to do the problem over and over again alone. However, children competing would probably have fun sharpening and improving their math skills. -Geneva Spencer

Programming CAI

GORTEK AND THE MICROCHIPS, $20 cassette for **64** or **VIC.**
BASIC programming for young learners from Commodore, 1200 Wilson Dr., West Chester PA 19380 (800/662-2444). Needs Datasette. No stated warranty. Unprotected.

This program is unique for its delightful documentation, which teaches programming in BASIC in story form, with a mysterious fun plot, bright and colorful examples, and time-out sections to play arcade-type games. The manual is worth the money, just to raise your child's interest in programming. I was sure it was a dud when our son ignored the computer and cassette the first week and just read the book. What a shock I got a few weeks later when he sat down, announced he was going to write his own adventure game with INPUT and IF-THEN -- and proceeded to use the statements correctly! The cassettes (different for VIC and 64) barely scratch the surface of BASIC programming. For a more complete and traditional course, choose Commodore's **Introduction to BASIC, parts 1 and 2.** Recommended to raise your child's curiosity and learn a few BASIC concepts; then pass it on. -ES

THE NEW STEP BY STEP, $60 diskette for **64** or **PET.**
BASIC programming for adults from PDI. Unprotected. 90 day media warranty.

Consists of 10 lessons, each with 2 parts and a brief quiz, followed by tests after lessons 5 and 10. After two lessons, it becomes very boring. To use the program, you must alternate between the screen and manual. It lacks sample questions, or the ability to go back to a prior screen. Even worse, you answer yes and no questions with "1" or "0", harking back to the days when BASIC lacked strings. At the end of each lesson, the program goes to "ready." for your practice time, without telling you what's happening or how to get back to the menu. Moreover, new users will eventually drop out of the program if they accidentally hit the STOP key or hit a key during a load. Only 2 pages of the nicely printed manual are relevant; other information should have been printed on the screen. The program does occasionally repeat your name, set decent screen colors, and gives the correct answer after two errors. We're glad to see PDI is writing for Commodore again, but can't recommend **Step by Step.** For an alternative, consider Commodore's best-selling **Introduction to BASIC.** -Jayne Schiek and JS

YOUR VIC-20, $30 cassette for **VIC.**
From Scholastic Wizware.

Cassette with menu leading to 4 option programs to teach use of the computer. The manual is unrelated to the cassette, and contains about 12 strangely-shaped pages that describe simple games you can play on the computer without even writing a program. Quite well thought out and fun in a teaching situation, but not worth $30. -JS

Furniture Reviews

POSTURE CHAIR, $160+UPS shipping.
From Quill Corporation, 100 S. Schelter Rd., Lincolnshire IL 60069. No-questions-asked refund for 30 days.

This German-made gas-lift steno chair with a 5-prong base has very modern styling, is available in beige, grey and brown, and takes about a month to arrive. The chair is quite attractive, large enough and padded enough for anyone, and very well constructed. It arrives unassembled, but takes only a few minutes to put together. The gas lift button, hidden at your side where it won't snag clothing, lifts the chair to any height, up to the level of a small bar stool! Unfortunately, the lowest level isn't low enough for either Ellen or I to use at our computer desks. The other problem area is the backrest. Although adjustable, it tilts as it moves, making it too easy to slouch when in the back position. Pushed farther forward, it blocks off part of the seat area, and slips back when you lean on it. On the other hand, the 5-prong base is a pure blessing. It never tips over like our 4-prong office chair, and rolls over carpets and tile far more easily than others. On balance, we kept it, but won't order another. -JS

Game Reviews

Adventure Games

PLANETFALL, $50 diskette for **64.**
Science fiction adventure from Infocom, 55 Wheeler St., Cambridge MA 02138.

In this second adventure in Infocom's science fiction series, you're assigned to a ship as an Ensign Seventh Class (you scrub floors). You're out to prove yourself worthy of a better life. As with **Witness**, quality and depth is built-in to the game. It's just a matter of whether you like this type of game. -JO

RESCUE AT RIGEL, $30 cassette for **VIC+16K.**
Graphic adventure from Epyx, Box 4247, Mountain View CA 94040 (415/964-8021). 30 day media warranty.

A thinly-disguised commando rescue attempt, set in a space colony, instead of the usual castle or cavern. Like most quickie take-offs on current events (the Iranian hostage crisis), it is less polished, simpler to play, and not as good a dollar value as other Epyx programs. One unusual feature is its 60 minute time limit. Only experienced players can rescue 10 prisoners and get out alive. Mapping the colony will help, but prisoners are continually moved. Unlike most adventures, your personal strengths and possessions are pre-set, with no choice of skill levels. Options include 2 kinds of guns, a force field, a speed-doubler, medikit, transporter beam, and if all else fails, peaceful negotiation. As usual with Epyx, the manual is highly readable "sci fi." **Very** slow loading from cassette. Action is also fairly slow, but graphics are better than in their earlier PET games. -JS

STARCROSS, $40 diskette for **64.**
Science fiction adventure from Infocom, 55 Wheeler St., Cambridge MA 02138..

You are in a 1-person mining ship, seeking black holes. Your automatic instruments may have detected one in the vicinity, which you have to check out. Wandering won't take

you far in such a small ship, or even outside it, since the safety line is quite short. To go further, you may have to move the ship. Fortunately, the ship is controlled by English words via its computer (which doesn't like to chat.) As usual, this Infocom game has a beautiful way of interpreting even strange and lengthy commands - but not help. Not for beginners, but well done. -JS

TEMPLE OF APSHAI Update, $35? diskette for **64.**
Dungeons and Dragons adventure game from EPYX.

A "Dungeons & Dragons" role-playing game. Good use of both sprites and a redefined character set. Terrific use of the 64's sound chip. Quite addictive once you start. Recommended, if you've got the time. -Rich Westerman

WITNESS, $50 diskette for **64.**
Detective adventure game from Infocom, 55 Wheeler St., Cambridge MA 02138.

You're set in the 1930's as a private detective bent on discovering the murderer. The game reminds me of the movie, "Dead Men Don't Wear Plaid." Well done. -JO

Arcade Games:

DAVID'S MIDNIGHT MAGIC, $35 diskette for **64.**
Pinball game for up to 4 players from Broderbund Software, 17 Paul Drive, San Rafael CA 94903. DOS protected.

All usual features of an arcade pinball, such as 2 levels and a ball collector. Lots of color, hi-res graphics, quick and realistic action, and beeps that pass for sounds. Controls include flippers, magnets, tilt, spring tension and a way to pause the game. Bill McDannell reports its feel is like the real thing. JO and I like it, too, but prefer **Night Mission Pinball.** Recommended. -JS

DEFENDER ON TRI Update, by Scott Elder. $20 cassette for **VIC+8K.**
Defender game from Nufekop, Box 156, Shady Cove OR 97539. Requires joystick. BASIC. No warranty.

In this maze game, you are a fighter plane flying through corridors to rescue ten scientists from four levels and get back out in 13 minutes. The real challenge is avoiding walls. Not one you'll play daily. -JS

ESCAPE, $17 cassette for **VIC.**
Maze game from Nufekop, Box 156, Shady Cove OR 97539. No warranty.

Rat's view of a maze. Directions are absolute, instead of relative ("North" rather than "Left"). Not bad for BASIC in 3.5K, but not worth the money. Not recommended. -JS

EVOLUTION, $40 diskette for **64.** Requires CBM disk and joystick.
Highly varied arcade game from Sidney Development Corp. DOS protected. 90 day free replacement warranty.

As friendly a game as I've seen. You can turn off the music and keep sound effects; a PRACTICE mode goes to any of 6 screens. Object is to "evolve" from a 1-celled amoeba through assorted lower forms to reach and survive humanity. Recommended. -Rich Westerman

THE EXTERMINATOR Update, by Ken Grant. $25 cassette for **VIC.**
Centipede game from Nufekop, Box 156, Shady Cove OR 97539. For keyboard or joystick. No stated warranty.

You have a machine gun and eight-way mobility. Opposing you are the usual centipedes, mushrooms, spiders, fleas and snails. The documentation says little more than, "Shoot everything that moves and everything that doesn't!" Screen colors on the first board they are quite impressive, but the next board is green on blue, and the third is a horrid pink on orange. I didn't want to play any more. The sounds and the speed of the action on the other hand were both very good for only 3.5K. -JS

FAST EDDIE, $30 diskette for **64.**
Ladder game from Sirius, 10364 Rockingham Drive, Sacramento CA 95827. No warranty. DOS protected.

Run across various floors, along with "sneakers." To avoid being touched, go up or down ladders or hop. Grab any heart-shaped balloons that float past, then advance to the next of eight levels by hopping over "High-Top" and collecting a key. Top seller and fine beginners' arcade game. Recommended.-JS

FORT APOCALYPSE Update, $35 diskette for **64.**
Rescue game from Synapse Software, 5221 Central Av., Richmond CA 94804. Requires joystick. DOS protected. Machine Language.

Your mission - fly your helicopter to capture fuel and weapons, rescue 8 men and destroy tanks, and enemy helicopters. On level two, rescue 8 more men against intensified forces. Now enter the mazes and destroy Fort Apolcalypse by firing 3 direct hits into its middle. Only the elite make it to the fort. I have never made it back. By far the best game I have seen for any micro. It uses the full potential of the 64, including multicolor hires and sprites, custom character set, horizontal and vertical scrolling, and fantastic sound. From 1 to 10, it's an 11! -Ross Garber

FRANTIC FREDDIE, $35 diskette for **64.**
Ladder game from Commercial Data Systems.

I didn't expect much from this company until I played **Frantic Freddie!** It has THE BEST sound effects (pardon me, musical accompaniment) of any program I've seen, even topping **Frogger.** The very simple mechanics of the game (in the vein of **Jawbreaker, Turmoil**, etc.) would go unnoticed, if it weren't for the music. I vote for **Frantic Freddie** for best musical score, 1983! -JO

GAME PAK AND ARCADE PAK, $15 and $25 respectively for **CBM/PET.**
From ComPuterMat, Box 1664C, Lake Havasu City AZ 86403 (602/855-3357).

Game Pak contains 3 public domain games: Dragon Chase, Deflect and Flip It (Othello). **Arcade Pak** has three slow, unembellished translations of PET games: Head On, Target Command, and Alien Invasion. Head On is the only playable game, offering the head-on-car-crash maze game that's been around forever. Alien Invasion drops one alien at a time on you and is BORING. Target Command is done in block graphics and is so slow it hurts. Save your money. Not recommended. -Mark R. Brown

THE GREAT BALLOON RACE, by Mr. Micro Ltd. $15 cassette for **VIC.**
Steering game from Abacus, PO Box 7211, Graand Rapids MI 49510. Joystick or keyboard. No stated warranty.

In a word, **The Great Balloon Race** isn't! In this frustrating BASIC game, based on one in the public domain, you guide a balloon around a pin-lined course. The problem is that the joystick and keyboard are not recognized quickly enough to allow you to do this. When you lose, a laughing face makes fun of you, making you want to smash the TV. The simple character graphics, color and sounds, and the simple but adequate instructions are nice, but wasted on this game. Not recommended. -JS

KICKMAN, $21-$29 cartridge for **64.**
Steering and bouncing game from Commodore, 1200 Wilson Dr., West Chester PA 19380.

Everyone in the family can enjoy it. A clown on a unicycle rolls back and forth trying to catch or pop ballons which fall from above. Kick balloons, Pacmen, or ghosts that can't be caught. I got to the 8th screen once. -Rich Westerman (**The Hacker Rag**)

MILLIPEDE Update, $15 cassette for **all CBM's,PET's or VIC.**
Centipede game from Nibbles & Bits, Inc., PO Box 2044, Orcutt CA 93455. Machine language.

The graphics are impressive. **Millipede** has 52 levels of play, and three pages of instructions. The keys used are sort of strange, but work well once you get used to them. Highly recommended. -Nolan Brown

MISSION 64, by Bob Richbourg. $20 cassette for **64.**
Alien-shootout from Briley Software, PO Box 2913, Livermore CA 94550-0291.

This is a slooooowwwwww variation of **Space Invaders.** You are a patrol ship shooting only up at descending invaders. You get three chances, and must be within a half screen or so of an invader to hit it. Your beam weapon only destroys every third location, so some accurate shots will still miss the target. The graphics are cute sprites, there is some color and sound, and the game can be listed. Thus, you might learn something from it, but I doubt if you'll play it much, unless you're very young. Three skill levels only determine how many chances you get. No score is given. On the other hand, the brief manual is well done, and describes better game features we didn't notice in our first testing. If the program were compiled, or at least optimized, some might enjoy it. -JS

MOON SHUTTLE, by Nichibutsu USA and John Butrovick. $35 diskette for **64.**
Alien shoot-out and rock-shooting game game for 1-2 players from Datasoft, 9421 Winnetka Av., Chatsworth CA. Requires 1541 disk drive and joysick(s). Protected.

REVIEW #1: Has Pause feature. Uses sprites moderately well. Takes different strategies for each screen. No automatic fire option, though one is badly needed. The first, third and fifth levels are asteroid fields to clear. The second level is swooping invaders, the fourth are expando's, which puff up before shooting back. The sixth is large invaders who mostly move sideways. The eighth level is large starfish that become ever-smaller as you shoot them. Then it's back to the first level, to face nastier baddies. The 1-sheet manual gives strategy hints that help. Very nice, for those who like this type of game. The score to beat is Bill McDannell's 41590. -JS

REVIEW #2: Excellent sound effects and HI-RES graphics will keep your trigger finger from itching for quite a while. Adapted to the 64 very well. -JO

NIGHT MISSION PINBALL, by Bruce A. Artwick. $40 diskette for **64.**
Pinball simulation from Sublogic, 716 Edgebrook Dr., Champaign IL 61820 (217/359-8482).

The best of all pinball simulations. A best-seller on the Apple for years. Controls include flippers, spring strength, left and right tilt, pause or single-step and joystick control. Up to 6 players may play. FIX enters a mode in which EVERYTHING is programmable, with 38 variables covering everything from points for free balls to the stickiness of the flippers. Saves high scores on request. Screen colors can be selected. Play action is fantastic. Everything on the screen does something interesting, all to highly-realistic World War II sounds of guns and bombs and airplane motors. Other pinballs bore me after a couple of games. This one didn't. Highly recommended. -JS

PEGASUS, $35 diskette for **64.**
Joust game from Commercial Data Systems.

Do NOT confuse this game with Comm-Data's. Pegasus is the closest I've seen to a JOUST arcade game on a 64. Excellent HI-RES display and easily played by youngsters as well as older gamers. A Commodore 1701 is a must to appreciate the graphics. If you don't buy many games, this one should be on your list of 20 'must buys'. -JO

PINBALL WIZARD, by Microdigital. $20 cassette/$25 diskette for **VIC.**
Pinball simulation for 1 or 2 players from Tech2 Software, PO Box 1110, Webster NY 14580. Keyboard only. Protected. 90 day limited warranty.

Not nearly as fancy or varied as Commodore's **Pinball Spectacular**, nor as fun to play, but definitely more faithful to the original. Acts just like a real one, right down to spin and friction. A strong second to **Pinball Spectacular.** -JS

PROTECTOR II, $35 diskette for **64.**
Defender game from Synapse, 5221 Central Av., Richmond CA 94804. 90 day media warranty. DOS protected.

Transport 18 people from an attacked city to a new city across a volcano that sometimes erupts. Invaders swipe your charges and shoot at you. After everyone has been transported, the barrier to the invaders' fortress opens, the volcano erupts, and the city of rescue is destroyed by lava. Then transport rescued people to an escape tube in the

invaders' fortress. Hint: the enemy missiles and lasers fire in predictable patterns. The program is supplied on both sides of its diskette, a novel way to help cut load errors. -JS

RAIN DANCE, $15 cassette or diskette for **64.**
Cartoon game from Magic Carpet Software, PO Box 25115, Phoenix AZ 85069. Keyboard only. Protected. No stated warranty.

This is the Cursor program of the same name, adapted to the 64. It is still a clever cartoon, even better in color, although the low-resolution graphics are nothing to brag about. The screen's instructions (and duplicate tiny printed instructions) are adequate, except for how to jump. A spare copy of the program is on the back of the tape; I needed it. To hold your interest a bit longer, it includes a game, with invading rain drops, and you the anti-rain "god." An electric snake fries you if you step on him. Buy it, if you do, for the cartoon, not the game.-JS

REPTON, $35 diskette for **64.**
Defender game from Sirius Software, 10364 Rockingham Drive, Sacramento CA 95827. Requires joystick. DOS protected. Machine-language.

Defend planet Repton from invading Nova Cruisers, which are building a bomb and draining power. Use bullets, 5 nuclear bombs, and a force field. If you fail, you go to their underground city. Here you must fire 5 direct hits into a command tower. Excellent graphics, including hi-res, multi-color sprites, horizontal scrolling, a scanner, altimeter, and score. Also takes full advantage of the 64's SID chip. From 1 to 10, this is a 9.9!!! Highly Recommended. -Ross Garber

RIVERCHASE, $30 diskette for **64.**
Steering game from Cyberia, 2330 Lincoln Way, Ames IA 50010. Joystick required.

Riverchase is just like a scene from the James Bond film "Live and Let Die." You must maneuver your spedboat around and through a Sunday afternoon crowd of leisure craft, canoes, and rafts while avoiding cannon fire from a pursuing enemy boat! You get the enemy with mines or lead him into an obstacle. Documentation is good, with a few hints. Graphics have interesting details and minor problems. Music warns you when to refuel. Your options include pause. Challenging and addictive. Recommended. -Chuck Needham

SKIBBEREEN, by Joanne Lee. $30 cartridge for **VIC.**
Bouncing game from UMI, 3503-C Temple Av., Pomona CA 91768 (714/594-1351). Requires game paddles. No stated warranty.

Simple 2-player combination of **Breakout** and **Pong**, playing against each other. The manual is a single sheet. Snakes try to eat the Pong ball. If they succeed three times (as usual) here, both players lose. The first player to break through an opponent's wall wins a pot of gold. 9 skill levels. Not recommended. -JS

SKRAMBLE, by Microdigital. $20 cassette/$25 diskette for **VIC.**
Alien shoot-out from Tech2 Software, PO Box 1110, Webster NY 14580. For joystick or keyboard. Protected. 90 day limited warranty.

This game has great promise, but badly needs one change. As in the arcades, you fly over rocky terrain, blasting helicopters, missiles and fuel tanks (to refuel). This stage is mostly flying low and holding down the fire button as missiles are eventually fired at you. When you finally enter a cave, spiders descend from the ceiling to be shot like everything else. I always crash here, because of boredom and a tired trigger finger - but get no second chance! If I'd persevered, I would have fought off meteors and other attackers in several settings, prior to landing and ending the round. Colorful, detailed and fast-paced, with a nice starting tune and other noises. If it allowed more than one try and more variety at the beginning, I'd recommend it. -JS

SNAKE BYTE, $35 diskette for **64.**
Snake program from Sirius, 10364 Rockingham Drive, Sacramento CA 95827. 30 day media warranty.

Butterfield's snake program in color. It has pause, and screen centering and such, but they are a wasted effort. No better than public domain games. Not recommended. -JS

SQUISH'EM, by Tony Ngo. $35 diskette for **64.**
Ladder game from Sirius, 10364 Rockingham Drive, Sacramento CA 95827. Uses keyboard or joystick. DOS protected.

In this variation on a ladder game, you climb a 48 story building to collect a suitcase full of money. Avoid being knocked off by critters or falling objects. You can't squish the same critter twice. You have 4 lives, plus 1 more per prize found (1 per building.) Object fall at regular intervals; plan on it. Fun, but $35 is too steep. -JS

STARPOST, for **64.**
Shooting game from Commodore, 1200 Wilson Dr., West Chester PA 19380.

In this simple arcade game, you rotate a "cattle prod" about a post in the middle of the screen, frying wierd objects as they invade from the edge of the screen. The only skill is deciding which way to rotate your weapon. Mainly for kids, and no socially-redeeming value even for them. Not recommended. -JS

3D-MAN Update, by Scott Elder. $21 cassette for **VIC +8K.**
Pac Man maze chase from Nufekop, Box 156, Shady Cove OR 97539. Requires joystick. No warranty.

Pac Man, with a rat's-eye view of his maze. Screen display and sounds are very unexciting, and documentation is lousy. Ghosts appear from nowhere, and it's far too hard to remember directions when chased. Nice idea, but a horribly frustrating game. Not recommended. -JS

TIME RUNNER, by S. Maxwell, T. Lyndon, and Y. Lempereur. $30 diskette for **64.**
From Funsoft, 28611 Canwood St., Agoura CA 91301 (213/991-6540). DOS protected.

Paint blocks by circling them. Baddies move at random, but their touch is fatal. There are 2 safety zones. You can temporarily get the baddies when they turn their backs on you. A coast mode keeps you moving in the current direction. Has a Pause feature, adequate graphics and pleasant sounds, but the test copy died occasionally. Not exceptional. -JS

Strategy (Tactical) and Board Games:

COMPUTER BASEBALL, $40 diskette for **64.**
Baseball simulation from Strategic Simulations, 883 Stierlin Rd, Bldg. A-200, Mountain View CA 94943-1983 (415/964-1353).

Baseball is a game of statistics and **Computer Baseball** is true to form. I think it's as close as you can get to real baseball, except for the grass stains on your knees. As a baseball manager you must decide EVERYTHING pertaining to your team. Included on the program diskette are some of the greatest teams in history. If you ever wanted to manage the 1927 New York Yankees, this is your chance. Highly recommended. -JO

COMPUTER FOOTBALL STRATEGY, $20 cassette for **64.**
Football simulation from Avalon Hill.

As a football fanatic, I bought this program immediately. The graphics are less than great, but it's the strategy that football fans will like. Many offense and defense options; play a friend or the computer or watch the computer play against itself. You can even check the statistics! If you love football, get this game. (Note: when playing against the computer, it's a sucker for throwing on first down.) -JO

GRIDDER, $20 cassette/$25 diskette for **VIC.**
Maze game from Tech2 Software, PO Box 1110, Webster NY 14580. Keyboard or joystick. Protected. 90 day limited warranty.

In this strategic arcade game, one or two nasties patrol a maze. If they see you at an intersection, they chase you. You'll have to outsmart them, aided only by the ability to spread a bit of fog now and then when they aren't too close behind. With skill you can lure them into patrolling a remote corner of the maze where they won't disturb your work - of painting the whole maze by passing through its paths. You start with 3 lives. After you complete the first maze (it takes a few games), you gain 3 extra lives (9 maximum), to paint the other 255 mazes. Colors are bright, sounds pleasant, and action fast. I vastly prefer **Gridder** to **Mad Painter** and **Gridrunner.** It includes action, but not mindless running, and forces you to survive without causing violence, a good lesson for our times. Recommended. -JS

PRO GOLF V1.0, by Computer Awareness, $30? diskette for **64.**
Golf simulation, from CMD, 500 Steele Av., Milton ONT L9T 3P7 CANADA (416/878-7277).

A complete 18 hole golf course in your Commodore 64. A well done sports simulation with all the hazards (trees, traps, water, and dog-legs) except weather. Good graphics are good, but not hi-res. Game play is very easy and you MUST keep your instruction manual nearby for referral. I don't like golf as a physical sport, but PRO GOLF is fun to play. When you've conquered this course, you can order other famous golf courses for a small fee. Highly recommended for the duffer in you. -JO

PROFESSIONAL TOUR GOLF, by Henry L. Richbourg. $40 diskette for **64.**
Golf simulation from Strategic Simulations, 883 Stierlin Rd, Bldg. A-200, Mountain View CA 94943-1983 (415/964-1353). DOS protected. 30 day media warranty, then $10 replacement.

In this golfing simulation, you and up to 3 friends may be any of 80 famous golfers, 20 pre-supplied and 60 of your own design, playing at either Pebble Beach golf course or a computer-designed composite of several famous courses (other courses are available). Graphics are highly detailed, with trees properly colored. You see the ball's flight, though you'll have trouble telling it apart from the rough. The only sound is that of the ball being hit. Choose from 15 clubs, any direction, and hook or slice the ball if you like. You can save a game in progress, ask for a help page, run a statistics review program, and even define a new player. Overall, **Pro. Tour Golf** is probably the best golf simulation currently available, though a bit slow in play. Those who aspire to become serious golfers can learn a good deal from it (especially if they live near Pebble Beach.) Recommended. -JS

RINGSIDE SEAT, $40 diskette for **64.**
Boxing simulation from Strategic Simulations, 883 Stierlin Rd, Bldg. A-200, Mountain View CA 94943-1983 (415/964-1353).

Best sports simulation I've seen on a micro. Pictured in the center of your screen are silouettes of two boxers going at each other. There's color commentary, a blow by blow description of the fight, and even accounts of the cuts each fighter receives during the bout. Choose one of the 45 greatest boxers of all time to fight the computer, play against someone else, or let the computer control both boxers. You can even judge the match. **Ringside Seat** considers around 40 different variables about each boxer to make it realistic. My ONLY complaint is that it takes around six minutes to set up a fight (my favorite is Marciano vs Louis). For a boxing fanatic, here's your salvation [loosely speaking. -ED]. Highly recommended. -JO

Disk or Cassette Drives and Supplies

DATALOCK DIGITAL CASSETTES, $75 per 100 cassettes (C20 length).
From NDC, 117 W. 23rd. St., Independence MO 64055.

About 4 years ago Len Lindsay carefully tested cassettes sold for PET. He concluded the best brands use Agfa PE-611 cassette tape. As far as I know, A.B. computers is the only company now advertising that brand. The computer students at Lincoln College use it, and no cassette has failed yet. (The students are another story.) On the other hand, Radio Shack's cheapest tape also works fine - reportedly because it is computer tape (not labelled as such). The only tape I've found that doesn't work reliably on Commodore computers is Certron, sold by K-Mart. Its recordings just fade away over time.

Thus, I can happily report that the Datalock digital cassette does work, but I'd have been shocked if it didn't. The prices are neither bad, nor especially good. Following the rule that, "if it ain't broke, don't fix it," I'll stay with brands I know. -JS

FLOPPICLENE, Disk head cleaning kit for **all Commodore disk drives.**
From Automation Facilities Ltd., Blakes Rd., Wargrave, Berkshire RG10 8AW ENGLAND

I consider disk head cleaners a waste of money. By design, disk drives are self-cleaning. Even after a year of heavy use, a disk drive head will typically be as shiny as the day it left the factory. If not, a quick wipe with Isopropl alcohol should remove any accumulated gunk. However, I've been having recent doubts, specifically on the 1541 disk drive. It is so cheaply made and its head so hard to reach with a swab that I'd considered using a head cleaning kit, in hopes of eliminating a few read errors.

Well aware of my attitude, Automation Facilities sent me **Floppiclene**, with supporting articles. If needed, the kit offers an ideal approach to cleaning a disk drive head. It has a diskette envelope suitable for either single or double-sided disk drives, 20 disposable circular pads that simulate the rotating part of a diskette, and an aerosol cleaning solvent. You insert a disposable pad in the envelope via a special access slot, wet half the pad with solvent, place the envelope in the drive, and run the disk for 30 seconds. It's easier to do than describe. The pads are non-abrasive, rough fibers that remove dirt. The solvent dissolves iron oxide left on the surface by floppy diskettes.

I used the kit to clean 5 disk drives, from a 1541 to an 8250. None had ever been cleaned, and one was over 3 years old. All worked before and after cleaning. Though I carefully inspected the pad afterwards, I found no dirt or oxideon it. Thus, I still can't prove it did any good. On the other hand, Tom Galpin of Commodore, who apparently duplicates diskettes in bulk, says, "Without **Floppiclene** my work would slow down considerably, for I would not be assured of the reliability of the transmission. I have to admit, it is an essential part of my equipment."

I'm glad to have the kit, as one more thing to try on those rare days when an important diskette fails. Yet, I strongly disagree that the kit should be used weekly as suggested; annually is enough. But I use only the best diskettes, always keep them in their envelopes, have an electronic air cleaner, and don't allow smoking in the house. If your habits differ markedly, you may need to clean more often. Since there is no other easy way to clean a 1541, VIC/64 owners may need this product more than PET/CBM owners. -JS

SUPER DRIVE, $425 disk drive for **all Commodore computers.**
From Micro Systems Development (MSD), 11105 Shady Trail, Suite 104, Dallas TX 75229.

Ed Lippert of Cardco reports he has had one of the MSD Super Drive single IEEE-488 disks for a couple of months now, that it is far better made than the 1541, and that it works well. However, it is also such a thinly-disguised copy of both the hardware circuit and DOS software on Commodore's own disks that Commodore will either have to sue MSD or see the floodgates open to a sea of copies. That means you the buyer can get a good disk

drive, but from a company that may be unable to make them for long.

Both JO and I were also very much put off by the attitute of the company in various calls to them. Briefly, if you put 100% down in advance, they might send you one in a few weeks. If you want it C.O.D. or with a partial deposit, they might get around to you someday. Under NO circumstances do we recommend sending full payment for an undelivered product. Several hundred Apple customers lost every dime in a similar arrangement this summer when a retail store with that policy went out of business. Even if that doesn't happen, once a company has all your money, there is less to be gained by giving you prompt delivery than by delivering to someone else who hasn't paid in full yet but will on delivery. We are aware of no ethical company that insists on 100% prepayment. For those still interested, the dual disk pictured in MSD's ads may be ready this month. -JS

Interfaces

BUFFERED PARALLEL CABLE, $30 for **VIC** or **64.**
Printer to User Port cable, with minimal software to emulate a parallel port from Microware Distributing, 1342 B Rt. 23, Butler NJ 07405.

A simple uncovered 2-chip circuit board with parallel cable. Until a software driver is typed in from the small manual or reloaded from tape or disk, it's deaf as a post, and still incompatible with most serious commercial programs. However, it does work with either the VIC or 64 (by setting a jumper), and is cheaper than even the new Card/? 'B'. Those who only need to interface to their own programs cheaply may even prefer it. -JS

THE BUSCARD, $199 IEEE-488 interface, monitor and BASIC 4.0 for **64.**
From Batteries Included, 186 Queen St. W., Toronto ONT M5V 1Z1 CANADA (416/596-1405). Anti-warranty.

REVIEW #1: As an IEEE-488 interface, **BusCard**, from cross-town rivals of the **C64-Link**'s makers, avoids most of the unpopular aspects of the **C64-Link**, preserves the important ones, and adds some new features. Its key feature is invisibility without sacrificing speed. Though nearly as transparent to other programs as the **Interpod**, it is 4 times faster, by requiring an additional connection within the 64 (no soldering). This allows the 64 to bank the **BusCard** in and out of the built-in ROMs' memory space. To further its invisibility, the included BASIC 4 and **Supermon** commands are turned off until enabled with a SYS call. Starting them after each RESTORE is a chore, but preferable to gambling on which **C64-Link** relocator option to use on THIS program.

The **BusCard**'s BASIC 4 includes one needed enhancement: DIRECTORY now includes pattern matching. Most settings are handled by a row of small DIP switches, as we prefer. It includes an interface to a parallel printer that can convert PETSCII to ASCII if needed, with a required simple cable as an extra-cost option. Physically, the **BusCard** looks like a thick VIC cartridge that lays down behind the 64, with supporting feet. The IEEE and parallel cables exit at right and rear respectively, while a pass-through for another cartridge exits from the top. It must be in the front slot of Cardco's CB-5 motherboard, or else you'll have a CB-4 instead. The only negative we've found is that it apparently won't work with an RS232 printer connected via the User Port.

We used to hook up both a **C64-Link** and an **Interpod** to fully use our 4040 with the 64. Now we hope to use the **BusCard** exclusively, using the 1541 for the few incompatible programs. **C64-Link** is $60 cheaper, and $199 is almost the price of a 1541, but if you need a good disk drive or other IEEE accessory, it's a good investment. Recommended. -JS

REVIEW #2: Allows you to use 4040 or 2031 disk drives with the 64. To install it, you attach 2 clips inside the 64. The **Buscard** may be removed and the cable left unhooked with no effect on the 64. The **BusCard** ROM maps out and replaces a section of the internal kernel ROM, so that while my 4040 is duplicating disks, I can work with my 1541 and printer.

Batteries' library includes about 1500 compatible programs. **Calc Result:Advanced, Paperclip** (also with the Data/20 card), **Info Designs** accounting programs, **Delphi's Oracle, Jumpman, Crush Crumble and Chomp**, and **Neutral Zone** all work with the 4040. It will not work with programs that use the time of day or alarm register in the 6526 chip at $DD00,

like **Speedterm 2**; use the other 6526 chip at $DCØØ instead.

It also will not support the RS-232 port (tested with **Smart 64 term, Commterm, Speedterm 2, Superterm** and **Easycom**). Batteries Included is working on a fix, but even with this bug, it's the best IEEE card interface I have seen, and make a total system consisting of a 64, **Buscard**, and a 4040 or 2031 hard to beat. -Steve Shubitz (75125,233 on Compuserve)

[ED note: This is our first review via Compuserve. Reviews may be sent to 75775,62 (Compuserve), to STS Ø51 (The Source), or to SYSOP (Lynx-Line BB 217/735-3331 after 9:30PM and on weekends). We also return diskettes sent with reviews in most word processor formats, usually with something interesting on it.]

INTERPOD Update

The **Interpod** works great for using an IEEE disk drive to save or load programs. However, it does have a serious problem. When an attempt is made to read the error channel on the drive, it sometimes returns extra characters imbedded in the normal error message. This has caused software using data files that checks the error channel to 'think' the I/O operation was not successful when it actually was. Because of this, I purchased a 64-Link which does not have this problem (nor any others that I have found). -Jesse Knight

SMART ASCII Upgrade

Revision 4 software is now available for the Smart ASCII printer interface for the 64 and VIC from Midwest Micro. Configuration (linefeed, line size, device number, and number of bits) is now menu driven. I have successfully used the software with **Easy Script** and a Gemini 1Ø printer. -Dave Oseas (The Users' Port)

Joysticks

ATARI JOYSTICK Update, $13 joystick for **64** or **VIC**

Until a couple of weeks ago, this joystick was still the one we used daily. We hate it for the extreme pressure it requires to make a move, and for the awkward way we have to hold it, but it was very precise and worked well until the cord gave out. -JS

KOALAPAD, $1ØØ joystick/graphic aid for **64.**
From Koala Technologies Corp., 31ØØ Patrick Henry Dr., Santa Clara CA 95Ø5Ø. Full 9Ø day warranty. DOS protected.

KoalaPad has to be one of the most well thought out combination hardware and software products available to date. After about 1Ø minutes of scanning the limited manual, I had it running. This product allows you to design excellent graphic displays on the screen using a graphics tablet. All functions are selected via the tablet in Icon and written form. Uses the 64 hi-res features well. A zoom feature lets you do detailed work. Has a number of detailed screens. At any time, two screens are in memory for applying predeveloped patterns to your current work screen. You can draw on one side of the screen and get a duplicate on the opposite side. The only thing missing was instructions for using developed screens in your own programs; there was barely adequate information for using the tablet itself in your own programs. I highly recommend this product for any application that uses screen photos. -Jerry Key

SLIK STICK $9 joystick for **64** or **VIC.**
From Suncom, 65Ø E. Anthony Tr., Northbrook IL 6ØØ62. 9Ø day limited warranty.

After our Atari joystick finally died, and Zircon's **Video Command** couldn't fully replace it (see separate review), we bought the **Slik Stick.** The **Slik Stick** has a smaller knob and fit my hand better than Suncom's more costly model, though it's not guaranteed as long. It is an easier-to-use substitute for the Atari joystick. Of the two we got, one is perfect, and the other rattles inside and is a bit imprecise at times, though better than any other we've owned except the Atari. Overall, this is a simple, cheap product, but can work extremely well. Test it individually in the store before buying, but give it serious consideration. Recommended. -JS

VIDEO COMMAND $15 joystick for **64** or **VIC.**
From Zircon International. 90 day limited warranty.

After loving the **Z-Stick** at the C.E.S. show, I happily bought this when I found it last month. They are, as claimed, very easy to use -- held in one hand like a handgrip, and the other hand moving the triangular knob on top. But they proved to be awful for maze games. (Have you ever tried pushing a triangle sideways without tilting it?) The movement-limiting little plastic maze collar of the Z-stick is not included in this model. Nor is the claimed automatic rapid fire feature. So, another near miss, but possibly still a good buy for non-maze games. -JS

WICO JOYSTICK Update, $30 joystick for **64** or **VIC**

This beast is indeed durable, but just as hard to use as, and far less precise than, the original Atari stick. Even careful adjustment of the contacts didn't help noticeably. Would last forever here, because no one uses it anymore. Not recommended. -JS

Z-STICK, $30 joystick for **VIC** or **64.**
From Zircon International.

This chrome model is held vertically in 1 hand, while the other hand moves a small lever at its top. Of all the joysticks I tested at the recent Consumer Electronics Show, this is the only one worth mentioning. Action was fast, precise, and required less pressure than nearly all others. It can also lock out diagonal moves (eases control in maze games), slow object motion by 50%, and repeat fire automatically. Recommended. -JS

Modems

SIGNALMAN MARK IV, $127 modem for **PET/CBM**'s (not "old ROM"'s).
From Signalman Mark IV. With BASIC program.

Probably the cheapest MODEM you can buy for the PET. It comes complete with a ribbon cable connector to plug into the parallel user port and a modem driver program on cassette. The MODEM driver program is actually two programs - one BASIC and one machine code. The BASIC program takes care of the PETSCII to ASCII conversion and it is easy to add extra functions. For example, I programmed my "HOME" key to send "ESC." The software even has an undocumented routine for sending control sequences. Control characters sent to the PET appear on the screen with an up arrow. -Sam Adams (Hardcopy)

Motherboards

CB-5 MOTHERBOARD Update, for **64:**
From Cardco.

As Cardco assured me all along, the reason my 64 wouldn't run **Word Pro** or **Calc Result** with their 64 mother board in place was because my 64 had an unsuspected illness. That was confirmed this month, when three other programs failed to operate properly on my machine, but worked fine on other 64's. We've now updated to a current 64, and the CB-5 is working perfectly with it. A truly amazing unit, and highly recommended. -JS

QUADRA-ROM, $40 motherboard for all **PET/CBM**'s.

Another attempt to conveniently accommodate the massive amounts of protective devises produced by commercial software houses. This 2x6" board will allow 4 ROMs to be plugged in at either $A000 or $9000; raised about 1" above the mother board. As with most such devices, its utility depends on what other equipment you have in your machine. Check out your needs first. This unit works well, although the switches are very small and mounted inside the machine. Switching is binary, with four combinations for the two switches. -J.P. Dellow

Printers and Printer Supplies

PAPER TRACTOR, $12 single-sheet holder for pin and tractor-feed printers.
From Paper Tractor, 1 S. Fairview, Goleta CA 93117 (805/683-2851). No stated warranty.

This is a new version of the product of the same name reviewed in our Whole PET Catalog. When first reviewed, it drew a lot of attention from readers, but no one could find the company. Now they've found us! **Paper Tractor** is a product of obvious value to those with printers that lack friction-feed and need to print single 8-1/2" wide sheets of paper. It is a long sheet of flexible (but apparently durable) clear plastic with sprocket holes on the sides and slots for a sheet of paper on the front. It will hold sheets up to 14" long without difficulty, although it may not be long enough to keep the paper-out switch on some printers from triggering with 14" paper. If you need it, you'll be willing to pay the lofty asking price. Recommended. -JS

STAR MICRONICS GEMINI 10X (Update to the 10, $330-395 dot-matrix printer.

REVIEW #1: The current 10X model has been enhanced to include 120 cps print speed, quieter operation, and 2K RAM to store user defined characters. The buffer only has 1K, but the CPU has been accelerated. Standard features also include friction/tractor capability, emphasized and/or double strike modes, pica, elite and any combination of compressed and/or expanded fonts.

As an Epson dealer, I feel these improvements make this new version equal to Epson's new FX80 in every respect, except speed and price. The Gemini has a 6-month guarantee versus 3 months for Epson. Gemini has a cheaper disposable print head than Epson's, and uses readily available spool ribbon instead of the Epson cartridge. -Richard Barnett

REVIEW #2: It has 9x9 print matrix (facilitating underlining and true descenders), bi-directional printing with logic seeking, and easily adjustable character and line feed pitch. An appealing feature is the ability to download programmable character sets to the printer. Print quality is certainly as good as the more expensive MX-80. The 72-page manual is marked preliminary.

My main gripe is that the printer uses 'chr$20' to return to normal print mode from a few special modes, which conflicts with the **Card/?**'s operation. The result is that once in condensed print mode, you must reset the printer to return to normal mode. Installing a new ribbon is messy, no matter how careful I am. In general, I'm quite happy with the 10X and feel it's a real bargain at the price. -Rich Westerman

PERSONALIZED MAIL LABELS, $20+shipping per 1,000 self-sticking mail labels.
From Quill Corporation, 100 S. Schelter Rd., Lincolnshire IL 60069. 30 day refund offer.

These are 3" by 4" one-up self-stick mailing labels with tractor-feed holes on the backing paper. They are done in colorful red and blue on white, with a four-line return address printed in large black letters. You can choose First Class or other sayings at the bottom of each label. We find these labels very easy to use both for hand-written and typed labels, especially for all correspondence that won't fit in a #10 envelope. They look far better than the self-inking return address stamp we used last year, are just as easy to use, and don't dry out with large mailings. Recommended. -JS

Other

DINSET, $5 reset switch for **VIC** or **64.**
From Public Domain, 5025 S. Rangeline Rd., W. Milton OH 45383.

A DIN plug with a push button in the rear. Push it to reset the computer. The **Dinset** works really well. It is well worth $5. -Fred Jones

DATA-20 DISPLAY MANAGER Update, 80-column video board for **VIC** or **64.**

I cannot agree that the disadvantages of an 80 column adapter outweigh the advantages; it depends on what you want in a computer. Granted, you need a monochrome monitor. I find the characters hard to read with 40 columns on the Commodore Color Monitor, without judicious selection of character and background colors. A TV set is certainly out. If you

are using commercial VIC software, you must use the original VIC screen. If you write your own software, the ability to show more on the screen at once is a real pleasure. **Data-20** gives you almost a full 32K extra memory in BASIC, since screen memory is no longer needed.

I have little experience with word processors, but the one from DATA-20 is quite adequate for my needs, and I cannot picture using a word processor without an 80 column display. The kids use the standard VIC 20 column screen for games and VIC programs. The 40 column screen works nicely for PET 2001 adventure games and 64 programs, while the 80 column screen is great for word processing and my own software programming. -James Pile

THE LIGHT PEN, $40 light pen for **64** or **VIC.**
From Programmer's Institute, P.O. Box 3470, Chapel Hill NC 27514. Uses Joystick Port #1.

The **Light Pen** comes with a cassette containing a VIC music program (untried) and two 64 programs: a 3-D version of TIC TAC TOE, and PENDISK, a disk utility program. The six-month wait for this product wasn't worth it; the "incredible" software that came with the pen is quite ordinary. Half the time your selection in T/T/T is incorrectly identified, and you must reenter your choice. The disk utility doesn't do anything that the DOS wedge doesn't do three times as fast. The pen is very inaccurate in the horizontal direction (vertical resolution is pretty good). A PI technician revealed that they would have had to add a $70-100 "chip" to make it more accurate. Wait for one with a "chip." It is not intended to be used in high-resolution modes, and just barely works in lo-res mode. The technician said they were working on "really good" games and drawing software, but I'm skeptical. They said I could not have a refund just because I was "dissatisfied" if the pen worked as they felt it should. NOT recommended. -Mark R. Brown

PROMQUEEN, $199 cartridge for **VIC.** (Version for **64**, too.)
From Glouchester Computer, 1 Blackburn Center, Gloucester MA 01930 (617/283-7719). Full 90 day warranty. Requires Datasette or 1541 disk drive.

REVIEW #1: A well-designed EPROM burner of top quality construction. Switches control an EPROM socket, Program/Burn mode, Program/Mimic mode and EPROM type select. Hexkit software on an EPROM downloads to diskette or cassette. **PQ** can program 2716 (2K) and 2732 (4K) EPROM's "as is," with instructions for changing voltage to burn 2732As.

PromQueen is much more than an EPROM burner. You can completely develop and test machine language programs without using any other program. It can mark and return to selected points in your program, do decimal-to-hex conversions, and has Move, Offset and debugging abilities. It can even burn EPROM's with your own BASIC programs, but the 512 byte overhead was rather steep for my needs. A mimic mode lets you use the **PQ** as a remote ROM for another machine. It can also develop software for other CPU's besides the 6502.

With practice, the PQ is easy to use. Seldom do you find an item as well documented as this, with an excellent tutorial section and an invaluable in-depth technical descripion of the **PQ** and the EPROM process. It took me about an hour to finish burning my first EPROM. Although I had to refer to the manual frequently, the information was easy to find. I also found the use of color and sound to be helpful. The only two drawbacks I found were the inaccessible positioning of the RAM/Hexkit memory location switches when the cartridge is installed, and the non-standard commands. This unit does more than it is advertised to do. Highly recommended for both novice and experienced programmers. -Jerry Key

REVIEW #2: **Prom Queen/64** is proving to be an even better product than the VIC version. I happily burned a dozen 2532's without a glance at the directions. Full review next time. -JS

UNCRASHER Update, $10-17 reset switch for **CBM/PET's.**
From Virginia Microsystems, 13646 Jefferson Davis Hwy., Woodbridge VA 22191 (703/491-6502).

A while back, we asked what had become of International Technical Systems and their **Uncrasher** switch for PET/CBM model computers. The product is now available through Virginia Microsystems, which bought out ITS in 1980. The price is $10, for a RESET switch alone, or $17 for RESET plus Diagnostic Sense. Neither version includes an NMI switch, but you could use a spare $10 version for that chore. Great for those who'd rather buy a ready made switch, than build it themselves. -JS

ASSEMBLER DEVELOPMENT SYSTEM Update, by MOS Technology. $20 diskette for **all Commodore computers.** Macro-assembler from Commodore, 1200 Wilson Dr., West Chester PA 19380 (800/662-2444). Requires CBM disk drive. Printer optional. No stated warranty. Machine-language. Unprotected.

This program has to be good, because Commodore uses it to write all their other programs. It is also, by far, the cheapest good assembler available. Only **MAE** and **PAL** rival it in power, and they cost five times as much. Disk-based and comes with an editor, an assembler, a loader, and an extended monitor (analyze bugs). Uses disk space efficiently, and is one of only two to use macro's. Recommended. -JS

COMAL VERSION 0.12, $10 diskette for **CBM/PET** and **64.**
Public domain language from Comal Users Group, 5501 Groveland Terrace, Madison WI 53716, and other user groups. Requires BASIC 4.0, 32K or the 64, and CBM disk drive. (Version 1.02 is for the 8096.)

REVIEW #1: After only one day playing with a preliminary version of COMAL, I am impressed. The structure is nice, similar to Pascal, but the syntax is amazingly similar to BASIC. **COMAL** is about 5 times faster than BASIC. And the turtle graphics! Wow! You will find it very easy to make the transition from BASIC to COMAL, and the improvements in speed and usability are definitely worth the effort. Fantastic! -Mark R. Brown

REVIEW #2: I don't have enough time or space to list all the good points! Version 0.12 is an excellent language, and Version 1.02 a programmer's dream! Both versions have IF-THEN-ELSE-ENDIF, WHILE-ENDWHILE, REPEAT-UNTIL, CASE structures, and every other structured statement you can think of. COMAL allows 16-character variable and procedure names. It has named procedures that can be open or close, value or reference parameters, local or global variables, as well as functions. All structures are automatically indented when listed. Many **Toolkit** type commands such as AUTO, and RENUM are already built-in. The 8096 version has CURSOR, PRINT USING, PRINT AT, IMPORT, INTERRUPT, LOOP-ENDLOOP, OBJLOAD, OPTION, MERGE, and many other extras. Version 0.12 gives you about 5600 bytes free on a 32K PET, while Version 1.02 gives you around 39K free. -Nolan Brown

C-64 FORTH Update, $100 diskette for **64.**
Threaded language from Performance Micro Products, 770 Dedhaam St., S-2, Canton MA 02021 (617/828-1209).

A full FORTH-79 standard implementation with double-number and machine specific extensions for the 64. Besides FORTH's standard incorporation of assembly and high-level language in one neat package, **C64 FORTH** provides a co-resident Forth-79 with extensions, Forth-Assembler, Screen Editor, and even BASIC, all accessed by one-word commands. Includes a word "79-Standard" to verify if a screen uses a fully compatible standard syntax for other systems. Other words let you save a redefined system to disk, add new vocabularies, or save a finished program in a form that can run without **C64 FORTH.** The Saveturnkey command is available as a "compiler" with other implementations for a substantial extra charge. Complete assembler can mix high-level commands with assembly code, editor can edit standard-length FORTH screens (1024 characters) but non-standard format. The screens are built of 40 or 80 characters lines, as opposed to the standard 64-character line, but the number of characters per screen is standard. Complete, large, spiral-bound manual has a good glossarary, needs an index, table of contents, and quick reference card. I had to sleep with it under my pillow before I felt comfortable with it. Sample screens provide you with some very nice high-res and sprite graphics capabilities. A chat with PMP indicates their forthcoming floating point extensions will also include high-res commands. **C64 FORTH** works extremely well (much faster than BASIC), and the people at PMP are good to you. Highly recommended. -Mark Brown

LOGO, By Terrapin. $60 diskette for **64.**
Graphic and list-processing language from Commodore, 1200 Wilson Dr., West Chester PA 19380. Requires 1541 disk drive. Disclaimer of warranty. Machine-language. DOS protected.

Commodore's Logo is a full implementation of the **Terrapin Logo** language, similar to but expanded from the Apple version. It also includes most features from the powerful list-processing language LISP. **Logo** is especially suited for work with artificial intelligence and also surprisingly useful for general-purpose programming. An excellent demo disk contains some fifty programs, including one to generate messages for postcards, one to convert sentences into pig latin, the song "Twinkle, Twinkle, Little Star", an adventure game, and a utility to convert from one number base to any other number base.

Logo works by defining words, and then using them to define other words, as in FORTH. The resulting dictionary can be saved for future use. Cursor controls still work well, but a bit differently than in most Commodore programs. Contains various "debugging" commands, and allows program lines or variable names of any length, but spaces must be placed just so. A press of a key lets you see a program or picture you are drawing. Several keywords may be abbreviated; an "Instant" version contains only 8 simple commands. Overall, **Logo**is better-structured, simpler to use, and possibly more powerful than BASIC. It is also an excellent aid to use the 64's powerful graphics abilities. Excellent for anyone interested in programming, whether child or adult, but take very good care of the diskette, since you can't get a spare. -JS

PAL 64, by Brad Templeton. $100 diskette for **64.**
Assembler from Pro-Line Software, 755 The Queensway East, Unit 8, Mississauga, ONT L4Y 4C5 CANADA (416/273-6350). Requires CBM disk drive. Printer optional. Unstated warranty. Unprotected.

The **Pal 64** assembler is simple in concept, extremely flexible in use and extremely powerful in skilled hands, and faster than any other assembler we've used. It comes as a small program that can be moved anywhere in computer memory, and works well with **Power.** Most programs will fit in memory all at once, for easier manipulation. Its syntax is like the CBM assembler, but its files are stored as ordinary BASIC. The manual isn't for beginners, but is excellent. Also includes my programs to rapidly recreate assembler source code from large machine-language programs, and a converter to use files from other assemblers. Has conditional assembly and relocatable object files. It lacks macro's, but its real weakness is the appearance of its source files when listed. They are very difficult to read except when printed on a printer during assembly. PAL is a latecomer among assemblers, and no longer the bargain it once was, but those who do have it (including several of the best-known programmers), use it regularly. Recommended. -JS

RPL COMPILER & SYMBOLIC DEBUGGER Update, $81 diskette for **CBM/PET**
Compiler from Samurai Software.

Does anyone know where Timothy Stryker and Samurai Software have gone? Nolan Brown sent a very favorable update we can't run until we find Samurai again. -JS

TINY COMPILER Update, from Aardvark:

Tiny Compiler does not compile into true machine language as stated by Hardcopy, but rather into tokenized BASIC. Thus, it runs faster because the VIC interpreter is not in full operation while the program is running. But y'll learn nothing about machine language by looking over these compiled listings. -Jim Pile

CHIME NEWSLETTER, occasional, $15 per year, for **non-Commodore computers?.**
Newsletter from Clearinghouse of Information on Microcomputers in Education, College of Education, Oklahoma State Universty, Stillwater OK 74078.

It's presumptuous to generalize from the first issue of any new publication when its objectives are not stated. This issue had approximately 10 Apple reviews, several brief Atari reviews, and one article on getting started with micros. Well-written, but programs have been reviewed in many other sources. Price is steep for 8 pages, with no mention of how many issues per year, and nothing directly for Commodore owners. -Elizabeth Kaspar, Macomb IL

COMMANDER Update, monthly, $22 per year:
Monthly magazine from Micro Systems Specialties, 3418 S. 90, Tacoma WA 98409.

COMMENT #1: The editors of various Commodore magazines have been having a lot of fun with **Commander**'s review of **WordPro**, written by its author, Steve Punter. Turns out Steve didn't write the review; someone in Commander's editoral department got the wrong name in preparing the review. They plan to show how it happened in a follow-up article. My first thought was, "Still, they should have known." On the other hand, there's a free Whole PET Catalog waiting for the first person who finds the Midnite review with the same mistake!

I also credit Commander with convincing Jini Micro Systems to finally pull my sort out of **Jinsam** after permission to use it expired. Commander did the right thing - gave Jini Micro a month to contact me or they would reject **Jinsam** ads. Two days before the deadline I got a Federal Express letter from Jini Micro finally paying up. Thanks, Linda. -JS

CompuLINK, $6.50 for 12 monthly issues, for **all Commodore computers.**
Newsletter from CompuLINK division of Clayton & Co., Box 9061, Livonia MI 48151

4 sheet, single-sided classified ad newsletter, mailed First Class. The review copy had only 2 Commodore-related ads out of 30, and no other content. Forget it. -JS

COMPUTER USING EDUCATORS, bimonthly newletter, $8 per year for **PET.**
Newsletter from California Teacher Organization, 127 O'Connor St., Menlo Park CA 94026 (Dr. Sandy Wagner, editor).

CUE's purpose is to swap public domain, educational software. They have more than 800 diskettes for 7 personal computers (including PET, but not VIC or 64) in their Softswap catalog ($1). More than a newsletter, the 34-page June issue has articles on preventing theft, writing educational software, book reviews, comments on articles in other publications, meeting announcements, contests, claasses, etc. An excellent newsletter, though Califorinia-oriented. Worth the price, even for those who don't live in computer Heaven. -Elizabeth Kaspar

CONSUMER REPORTS, monthly, $14 per year.
Magazine from Consumers' Union, PO Box 1949, Marion OH 43305.

Consumer Reports has been a staple in our family since 1968. However, their current two-part series rating computers, shows very little knowledge or understanding of Commodore products. They top-rated the Atari 800 and Tandy's CoCo, both already replaced by new models, reviewed the 4032 instead of the 8032, and down-rated the 64 and VIC for lack of software. Since we knew that claiming Commodore is short on software has been an Apple tactic for years, we had previously offered our help to CR in locating good software for the reviews. As usual for this otherwise-admirable magazine, there was no reply.

We find it difficult to believe that anyone could still feel there isn't much software for the VIC and 64, let alone a group like Consumer Reports that normally checks its facts. They most certainly can't have ever seen a Midnite/PAPER or the ad section in Compute!

Midnite readers will also appreciate CR's utter lack of research when they chose to

evaluate only two Commodore-related word processors - **WordPro 3 Plus** for the 40 column PET and the junky little text editor in Commodore's 3-year-old **Home Calculation Pack** for the VIC. There are many good reasons to subscribe to Consumer Reports, but solid information about computers isn't among them. -JS

COURSEWARE REPORT CARD, $50 per year (5 issues) for either the elementary or high school editions. Both editions for $95. Review journal from 150 Carob St., Comptom CA 90220.

Educational software reviews and evaluations for PET, Atari, and TRS 80. Each issue contains 20 to 25 reviews. Pertinent information such as publisher, cost, type of program are given; grades from A to F are assessed in six areas (inluding performance, ease of use, appropriateness, and educational value), then each area is discussed in detail.

For this price, I would like to see more aspects evaluated and more than one reviewer for each program. Also, the A to F grades are not consistent with the reviewer's critical comments. Reviewers are too squeemish about giving Ds and Fs! This publication compares favorably with the similar, **School Microware Reviews**, but has separate subscriptions for high school and elementary reviews. Rather expensive for one school to buy, but justified for a whole district since so much educational software today is poorly done, dull, repetitious, and often not worth the price. -Elizabeth Kaspar

DESKTOP COMPUTING, monthly, $25 per year.
Magazine from Wayne Green, Inc., Box 917, Farmingdale NY 11737.

This is a business-oriented magazine for new computer users. Despite its beginner orientation, it is rich in useful information. The review issue included several articles about and a fine comparison of the best-known calc programs, an article on how to start a word processing business in your home, reviews of the Tandy 100, the Osborne Executive and more hardware, plus **1-2-3, Multiplan, Calc Result** and other software. An interesting magazine, even though barely related to existing Commodore products. -JS

DIGEST OF SOFTWARE REVIEWS: EDUCATION, quarterly, $43 per year.
Review journal from Ann Lathrop, editor; Dan Isaacson, publisher; 1341 Bulldog Lane, Suite C, Fresno CA 93710.

A new (1983), much needed digest, printed on looseleaf sheets (binders come with subscriptions). Each issue is a compilation of reviews of 50 programs from other review journals, newsletters, education journals, and computer magazines (including Midnite). Programs selected range from K-12, all disciplines, for every microcomputer having educational programs. Lathrop is highly qualified: she originated the Mateo Country CA teacher SOFTSWAP organization. An excellent source of information; if a school district can afford only one review journal, I recommend this one. -Elizabeth Kaspar

MICRO MAGAZINE Update:

Somehow in the Whole PET Catalog we listed Micro as costing $59/year. Not hardly. If you'd like to subscribe, just send $24 (one year) or $42 (2 years) to their new address at 10 Northern Blvd., PO Box 6502, Amherst NH 03031.

PHYSICIAN COMPUTER MONTHLY, monthly, $98 per year.

Volume I, no. 1 was published in July, 1983. After examining this copy, I found it a combination of testimonials and "advice to the lovelorn" for physicians who either have bought are are about to buy computer systems for their offices. At that price ($98 per year), I find little to entice me to subcribe to this 16-page monthly newspaper! -B.A. Spencer, M.D.

COMPUSERVE EXECUTIVE (VIDTEX), $40 diskette for **PET/CBM** or **64** versions.
From CompuServe Information Service, 5000 Arlington Centre Blvd., Columbus OH 43220 (800/848-8990). PET version requires IEEE MODEM (Star or 8010) or RS-232 MODEM via user port. 64 version requires VIC MODEM and 1541 disk drive.

REVIEW #1: For serious users of the CompuServe system. This intelligent terminal package is designed to take full advantage of the proprietary 'B' protocol used by Compuserve. It is NOT a general purpose terminal emulator for use on any and all systems. Specify version. An easy to make interface cable layout is provided in the RS-232 version manual.

The main feature of this package on both versions is error free uploading/downloading using CompuServe's Filtrn (file transfer) program. You can also send ahead pages for storing different games screens in memory (vs. resending each time) for serious game players. Being written for use on CompuServe by CompuServe ensures complete compatibility. Has excellent screen handling, user defined function keys, and automatic cursor positioning by the host system, upload/download to/from disk or buffer, and virtually any printer is supported. A Help screen and function menu is available at all times. The **64 version** has the same features, but also supports color. Larger buffer for data capture. Undocumented feature is disk directory by using the META '*'. Both versions are highly recommended for CompuServe users. -Jerry Key

REVIEW #2: As one who knows nothing about programming, and with little outside help other than the supplied documentation, I have been able to use **WordPro 4+, Dow Jones,** and many diskettes from the public domain library. Not so with **Vidtex.** I spent almost a week trying to understand this program. It is definitely not user friendly. Downright antagonistic is a more appropriate term. The documentation seems to start in the middle - of what, I never understood. The auto dial wouldn't dial, the terminal wouldn't term and the functions wouldn't funct. I would have liked to load the program from diskette and see a menu from which to select appropriate operating modes, with helps when entering phone numbers, responses, passwords, etc. As a business user, I need quick results.

I returned the CompuServe Vidtex Terminal Software package to CompuServe for credit. They really are good folks, try hard to please, do provide a great service. Maybe sending a personal instructor would help. A blonde would be nice. For now, I'll stick with Jim Strasma's **Terminal Disk** that works pretty well. -Howard Schwarzman

MICROTERM 64, by Daedalus Digital. $30 diskette for **64.**
Terminal program in BASIC from Arfon Electronics, 111 Rena Dr., Lafayette LA 70503. Needs CBM disk drive and optional serial bus printer. Disclaimer of warranty. Unprotected.

REVIEW #1: After fiddling around with **term 64, 64 term** and such, it is a relief to find a terminal program for the 64 that will conveniently save, upload, and download ASCII files from non-Commodore BB's. While in terminal mode, it supports Save on and off, clears memory, sends strings to the next carriage return, or sends all data in the buffer, and exits terminal mode. You can start and stop the save as you wish, while viewing the information. Other modes allow you to load text or data files to memory to be sent later, to print the memory, and to save to disk or tape what you have received (from memory).

Now for the weak points! It took over 30 minutes for the program to save 28K of weather data I had downloaded from another source. The program does not recognize capitals in file names you wish to load or save; you must rename and resave those files, with names all in lower case. Most importantly, it won't load text files, and doesn't like any non-alphabetic characters in the file name (even spaces). If you need something to work now, this one has some merit because it will interface with many BB's, but needs a lot of work. -Ray Merry

REVIEW #2: This program scored very well by the two user groups that rated it. We also found it very nice in initial testing, with many features we recommend, including a

text save buffer, ability to dump the buffer to disk or printer, a way to enter files in the buffer in advance for later sending, easy control of all modem features, via selection menus and a stick on job aid.

Unfortunately, it is written entirely in BASIC, and not optimized for speed. When we connected it to our Tandy 100 computer, it was not able to keep up with file uploads from the Tandy, no matter how slow a baud rate we used. Files sent the other way, and text typed in from the keyboard, worked fine. Since the Tandy works well with at least two other tested terminal programs on the 64 and with all the remote systems we've tried, the problem must be inadequate buffering of incoming characters by **Microterm 64.** Until this is solved, this program is not recommended. The company reports they will soon be delivering a machine language version to solve this problem. -JS

PET BULLETIN BOARD SYSTEM, by Steve Punter. $167 for **CBM 8032.**
PET bulletin board system from Steve Punter. Requires 8032, 8050 disk drive, 8010 MODEM (discontinued 2 years ago, but occasionally still available used.), and a "black box" to answer the phone. No stated warranty. Unprotected.

This is the standard Commodore system for answering the phone and taking messages. All existing bulletin boards running on Commodore systems use it, partially because of the work Steve has put into making a good system, and partly due to the lack of any alternative to date. I am continually amazed that Steve is still able to sell copies of a package that won't run on any currently-produced MODEM, and equally amazed that he hasn't bothered to do anything about making available the alternative versions of his program others have adapted to MODEM's you can buy. Several existing bulletin board systems, including ours, are running on TNW-103 MODEMs, using software developed by Keith Peterson from Steve's original. Steve reports he is having someone convert the system to the 64 and the new 1650 MODEM. I hope that version is completed soon, even though it will probably use an IEEEC-488 interface and a larger disk than the 1541 to give decent response time and adequate capacity.

As a host system, Punter's package is fairly capable. It takes and replays messages, offers bulletins (articles), and sends and receives programs. It also allows the SYSOP to do other things, including chatting with anyone using the system. However, the overall power isn't as great as that of the system running on a Model 3 Radio Shack nearby. Only the ability to format a message with **WordPro** like commands is better than on the Tandy. One disadvantage is that it is incaompatible with the PETscan network we use here.

The best thing about Punter's bulletin board is that it is the standard. **Superterm** (see separate review) recognizes this and includes the ability to load and save programs via the Punter BBS system. If you want to set up a bulletin board on Commodore equipment, it's still your best option. If you do buy the package, and can't find an 8010, let us know. With proof of purchase, Steve allows us to provide you with the TNW version. -JS

'64 TERMINAL, by Jim Rothwell. $30 cassette for **64.**
Terminal program from Midwest Micro Associates. Requires Datasette, CBM MODEM or RS232 interface, and optional printer. Free replacement warranty. Machine language. Protected.

'64 Terminal is Midwest Micro's simplest terminal program for the 64, and similar to their **Terminal 40** for the VIC. This version adds a larger (24K instead of 4K) workspace in which to capture a copy of information received, and of course needs no tricks to generate a 40 column display. It will not, however, send or receive files. Nor will it work with a disk drive. Two other good features are its use of function keys (with stick-on job aid), and an option status line on the screen to ease use.

The program allows you to set all the usual MODEM parameters up to 2400 baud, plus line-feeds and colors. All ASCII and Commodore characters may be sent. The receive buffer can be switched on and off, and reviewed at any time. However, once a paper copy is begun, the buffer will be erased even if something goes wrong with the paper copy. One other option strips extra TABs and SPACEs from received information, to save space in the buffer and improve readability on the 64's narrow 40 column screen. Be sure to test it with your 64 before buying; our test copy failed to work on a current production 64. -JS

SUPERTERM, by Jim Rothwell. $100 diskette for **64.**
Terminal program from Midwest Micro Associates, P.O. Box 6148, Kansas City MO 64110 (816/254-9600). Needs CBM disk drive, CBM Modem or RS232 interface, and optional serial bus printer or one using Smart ASCII. 90 day free replacement and update warranty. BASIC and machine-language. Unprotrected. 300-1200 baud transfer speeds.

Looking for the best terminal program? This is it! **Superterm** includes virtually every feature offered by other terminals, and then some; even the best terminal programs for the larger Commodore computers don't equal it. The company calls it a terminal emulator, and with good reason -- it is able to mimic even elaborate mini-computer terminals, such as DEC's VT-100. Some of these have up to 132 column screens, which **SuperTerm** mimics by scrolling sideways. This can be confusing. It's too bad **Superterm** doesn't use the software 80 column and smooth-scrolling techniques its developers pioneered in **Terminal 40** on the VIC.

Our favorite feature in **Superterm** is its file up and down-loading, via both the PET bulletin board and Compuserve methods. No other commercial terminal program supports the very common PET bulletin board file requirements. It is also able to receive programs from non-standard systems and convert them into Commodore programs. Naturally, it also does the usual things, such as capturing a copy of information received. This information can be edited later, with most of the usual commands of a word processor, and then saved to disk or tape, or printed. If you have the company's special **Smart ASCII** printer interface, you may even print received information as you receive it, something no other tested terminal program for the VIC or 64 can do.

Any key can be re-defined to act like another key, troublesome characters can be filtered out when received, and special codes needed to get into many large computer systems as a terminal can be given with only a couple of keystrokes. All options of the program can be stored on disk once, and never typed again. We successfully used our 64 running **Superterm** at its top speed, 1200 baud, to transfer messages and files to and from our Radio Shack Model 100 lap computer, something STCP on the CBM remains unable to do.

The only negative we've found about **SuperTerm** is that its instruction manual is preliminary, and doesn't even mention some of its abilities. However, the company is quite reputable, and promises to send the final manual to all current customers as soon as it is completed. Highly recommended. -JS

Science Reviews

ENERGY ANALYSIS, $25 diskette for **PET/CBM** or **64.**
Energy efficiency/audit program in BASIC from Ray's Energy Consultants, 1751 N. Grand Ave. W. #41, Springfield IL 62702. Unprotected. Printer optional.

An analytic program which takes your energy bills and gives you a complete engineering breakdown, to either screen or printer, of your equipment's efficency in engineering terms. Newer versions, I understand, also graph the information. Has some useful commercial applications to evaluate existing systems, or compare systems and the results of improvements. Translates all this into mathamatical terms ideal for engineers, and reasonably readable for laymen. The program certainly is priced right. Addresses both heating and cooling efficency, requires inputs of energy unit costs, type of fuel, heating degree days for whatever time period you want. CAUTION: the program does not check for valid entries.

Ray's also offers an **Energy Audit** program, in which you describe your house, and get a readout on your projected costs. It allows you to see how cost effective different improvements would be and how soon they would be paid off. The program covers most but not all houses (I have one partially on a slab and partially over a basement). If you have a need, recommended. -J.P. Dellow

Combination Aids

BONUS PACK, $30 diskette or cassette for **64.**
Variety pack from Commodore, 1200 Wilson Dr, West Chester PA 19380. Needs Datasette or 1541 disk drive. No stated warranty. Cassette version omits portions.

Includes most utilities necessary to successfully use the 64, with samples of helpful and enjoyable programs, and the best programs from the sample diskette for 1541 disk drives. Best new programs include: 1541 backup (duplicates a diskette using only 1 drive), Supermon64 (extended machine-language monitor), PET Emulator (allows the 64 to run most PET programs), Character Editor (defines custom characters), Sprite Editor (defines sprites), Labyrinth (rat's eye view of a maze) and Lemonade (simulation of a lemonade stand.) Only a few of these programs are better than similar offerings from user groups, other companies and Commodore itself. The manual recognizes this, and suggests good alternatives. The manual is good, but incomplete. **Bonus Pack** contains more of value than any one competing product, and belongs in every 64 owner's library. Recommended. -JS

GRAFDOS, by Corey Ostman. $30-40 diskette for **64.**
BASIC extension from Xylex Software, c/o Interesting Software, 21101 S. Harvard, Torrance CA 90501. 90 day media warranty.

This all-in-one aid program is an extension to BASIC to provide a DOS wedge, graphics commands, and programmers' aid commands. Compared to other aid programs, **GrafDOS** is not properly thought out. For instance, pressing STOP plus RESTORE breaks out. The command INIT is used, not to Initialize a diskette, but as a way of headering a diskette. Other commands use non-standard syntax ("trap" instead of "on error." Other disk commands also violate established Commodore syntax; even the extended monitor ignores syntax used by all other respected Commodore monitors. Using GrafDOS within a BASIC program is even more fun, because its commands have to be preceded by still another non-standard character. The graphics and sounds commands are more normal, though too much attention is given to low-resolution graphics, and none to sprites. The program works, does several good things, and isn't a bad buy. Even so, I can't recommend it. We have only a few standards in the Commodore world, and they shouldn't be ignored. -JS

SIMONS' BASIC, by David Simons (age 16). $25 cartridge for **64.**
Graphics and programmer's aid from Commodore, 1200 Wilson Dr., West Chester PA 19380 (800/662-2444). Requires Datasette and joystick. No stated warranty.

REVIEW #1: According to one buyer, the introduction of **Simons' BASIC** to the U.S. was intentionally delayed, because its excellence would have caused the 64 to sell faster than they could be made. The author of a competing programmer's aid says his product will soon have a new imitation command, called "Simon". All it will do is crash the computer. The truth is somewhere between. This do-all programmer's aid is not the salvation of Commodore, nor is it horribly bug-ridden. Rather, it is an excellent program, written by a 16 year old, that shows signs of both brilliance and inexperience.

The real weakness in **Simons' BASIC**, is that it emphasizes quantity more than quality. As the author of the competing program said, "it isn't how many commands you cram into a program that counts, but how much you can do with the commands you have." **Simons' BASIC** has commands for almost everything of interest, but several are less powerful than the same commands on competing products. It also includes a large set of aid, disk, graphic, sound and game functions. With all this inside, and the price so low, anyone interested in BASIC programming should consider getting it. If we could plug only one cartridge into our 64, we would hope for a revised and perfected **Simons' BASIC.** Recommended. -JS

REVIEW #2: I had a bad experience with this cheaply made cartridge. The edge connector appears a little thick and chopped off at the end so that the metal contact

strips catch the prongs in the port and short them. When I turned on my 64 (under warranty), all I saw were shades of grey. Fortunately I got another 64. The repairman tried out the cartridge without bad effects. I thought that I had been careless. That evening, with the machine on its side, as I was being super careful, I saw the prongs bending again. Now I put a piece of cardboard in the port to make sure it does not short out. It is a shame the cartridge is so badly made. The program and the manual both seem to be very good. It would have been the best value all year. -Herb Gross

REVIEW #3: The greatest thing since canned milk. I have had it for three days and it will take me another 30 to learn to use it. There are another 114 BASIC commands to learn. The ability to generate complicated graphics with only BASIC statements is really worthwhile. -John J. Schueler, K7QV

ULTRA-BASIC 64, by Roy Wainwright. $40 cassette or $43 diskette for **64.**
Graphic and sound aid from Abacus Software, Box 7211, Grand Rapids MI 49510 (616/241-5510). Requires Datasette or 1541 disk drive and optional CBM or Epson printer. 90 day media warranty. Machine-language. Unprotected.

Abacus software has put **Screen Graphics 64** together with **Synthy 64**, and added some more general purpose BASIC commands to form **Ultra-BASIC 64.** The graphics portion lets you draw fancy graphics with only a few lines of BASIC-line commands, such as DRAW, CIRCLE, BLOCK and FILL. With high resolution (319 dots by 199 dots) and sixteen colors, you can create single and multi-color sprites. It also includes a helpful tutorial program. The sound portion is surprisingly simple, yet very complete, easy and fun to use. Although it only uses one time signature (4/4 time) and lacks measures for composing music, it uses a tempo command, ties notes together for different note values, and can repeat stanzas. You can print to the screen, input information, and design custom instruments. Its most exciting feature is a way to play three different voices with a simple keystroke for each voice. You can even view all music registers as music is being played. If you like using commands to form graphics and sound instead of a joystick or a music staff, get **Ultra-BASIC 64.** Highly recommended. -JS

Graphic Aids:

COLOR 80, by RTC. $40 diskette for **64.**
80-column expansion/color utility from Computer Marketing Services, 300 W. Marlton Pike, Suite 26, Cherry Hill NJ 08002 (609/795-9480). Requires 1541 disk drive and monochrome monitor (or CBM 1701 monitor). No stated warranty. Machine-language. DOS protected.

Color 80 is for those who want 80 columns of characters on their 64 or VIC screens, but won't give up color, their present monitor, or wads of cash. You'll appreciate it most when using a word processor or using a machine language assembler to create source code. This program gives a somewhat-readable 80 columns on the CBM 1701 monitor in most colors (but not RED), and an utterly useless display on our Panasonic color monitor.

It loads into the machine in a location that won't affect the operating system, and won't "crash" when you must reset the machine. It is easy to SYS back and forth between 40 and 80 columns, but the program does add to the time it takes to clear or scroll the screen. Located under BASIC, Kernal & I/O. Screen color makes its changes after screen is cleared. It runs with the **C64-Link** and is built into **Script 64.** Recommended when you must have 80 columns, regardless of character clarity, but not for daily or extended use. -JS

DOODLE, by Mark Rubin and Omni Unlimited. $30 diskette or cassette for **64.**
Sketching program from City Software, 735 W. Wisconsin Av., Milwaukee WI 53233 (414/291-5125). Requires 1541 disk drive or datasette, joystick or trackball, and optional CBM or ASCII printer. Full warranty. Machine-language. Unprotected.

Doodle is an incredible sketching program, with scads of features and screen menus for each option. With differing sizes of sketching and erasing pencils, you can draw and erase lines, as well as zoom in on a portion of a picture, and alter things pixel (dot) by pixel (a super-imposed grid can be added and removed to do this). You can even type in words in upper or lower-case in text mode, and then use all the other tools to alter them. It can

also draw boxes, memorize their contents, copy them elsewhere, expand them up to 16 times, invert them, turn them 90 degrees, reverse figure and background, and erase everything but outlines. You can then save everything, and reload later to se in other programs (the manual neglects to say how), or print to a graphics printer (like Epson, Pro-writer and CBM 1525). It also extensive color capabilities. All it lacks are ways to program sprites and sounds and some demonstrations of what **Doodle** can do. The manual covers everything else well. **Doodle** should be a best-seller. Highly recommended. -JS

'64 PANORAMA, by Dr. Jim Rothwell. $20 cassette for **64.**
Drawing program from Midwest Micro Associates, PO Box 6148, Kansas City MO 64118 (816/254-9600). Requires Datasette or 1541 disk drive, joystick, and optional 1525 printer. Free replacement warranty. BASIC. Protected.

REVIEW #1: 64 Panorama is an average drawing program, with a unique series of 19 digitized photographs that have been converted from TV pictures into highly-detailed computer images. The program uses a joystick in port 2 to draw lines in either high or medium resolution. Colors can be set, but all lines are the same color. You can also fill the screen with a single character before drawing begins. Once created, you may save your pictures on the cassette, disk or printer. Loading from cassette takes forever. Buy the program for the pictures, not the drawing. -JS

REVIEW #2: You can draw and design with joystick or look at pictures already on tape. However, the picture is all one color, and you cannot save it to reuse in your own program. It's also not easy to load. Not recommended. -Nita Rybolt

SPRITEMASTER 64, $40 diskette for **64.**
Sprite aid from Access Software, 925 E. 900 South, Salt Lake City UT 84105 (801/532-1134). Requires 1541 disk drive. Machine-language. Unprotected.

Lets you design animated sprites, either one at a time or in groups of three; you move them around with cursor controls. Includes sample sprites as a guide, and lets you set all parameters of a group of sprites with single keystrokes. There is also an animation mode to test moves. Sprites may be saved and loaded for use in other programs via a two-line program. The manual is fairly complete, with full instructions on use and technical details on sprite-building. Recommended. -JS

SPRYTEBYTER, by Nambawan Software Co. $35 diskette or $30 cassette for **64.**
Sprite aid from Foxsoft, PO Box 507, Deer Park TX 77536. Requires CBM disk drive and optional joystick. 30 day media warranty. Machine-language. Unprotected.

Sprytebyter calls itself "perhaps the most powerful and versatile sprite development package available." We're inclined to agree. It includes "almost every practical function that may be applied to sprite development." With it, users can make and modify up to 127 different sprites in one or more colors, and then save them in an efficient form, for use in their own programs. An included subroutine helps link sprites into programs. Almost everything in the program can be controlled either by joystick or by selections from one of 12 option menus. Although the program is quite complex, it is relatively simple to use, even without a manual (which is complete, but hard to use). Its most impressive feature is the "turn" command. It can automatically generate a series of new sprites from an original, each rotated a specified number of degrees from the one before. A companion "movie" option is almost as impressive. It displays all the sprites in order at a set speed, so that you can visualize animated effects as you create them. The only thing noticeably missing from **Sprytebyter** is the ability to see several sprites simultaneously. A top-quality program from a highly reputable company. Highly recommended. -JS

THE TOOL-C64, by Micro Application. Diskette on **64.**
Forms editor from Canadian Micro Distributors, 500 Steeles Av., Milton ONT L9T 3P7 CANADA (416/876-4741). Requires CBM disk drive. No stated warranty. DOS protected on 64.

A great adaptation of **Procep Editor** and **Master** on the CBM/PET's. (**Screen Master** for VIC is said to be similar.) **The Tool-C64** adds 35 new instructions to BASIC that help you create the way you want your computer screen to display the data you will be storing in another program. The most important commands set up a business form of up to 128 fields on

the screen, and then actually fill it in. This forms editor is the most powerful one available, and very useful when writing programs for unskilled users. You can even leave part of the screen stationary while scrolling other parts up and down. There are also commands to load and save copies of the screen to disk, to plot in high-resolution and color, and several useful programmer's aid commands. one impressive demo draws excellent programming flowcharts on the screen with a joystick and a few keys, including text descriptions. It's main weakness is that it must be in memory along with programs that use it, and cannot be given to others along with your programs. Since the program comes with a DOS-protected diskette, you must buy a spare copy for safety. Recommended if you are writing serious programs.-JS

[**MAster64** by Micro Application has just arrived for review from Abacus. Retail is $85. It should be even more powerful than **The Tool-C64.** See the review of the CBM version in Midnite #10 and 11. More next time. -ED]

Music and Sound Aids:

MUSIC COMPOSER, $17 cartridge for **64.**
Music aid from Commodore, 1200 Wilson Dr, West Chester PA 19380 (800/662-2444). Datasette optional. No stated warranty. Machine-language.

With this cartridge, you can choose instruments for each of three voices, play a sample song, turn the 64 into a keyboard piano, set special effects, enter and edit your own music, play your song and load and save to cassette tape. The sample songs sound terrific and the instrument choices are good. Notes are displayed on the screen while the song is being played. The notes for each voice should be different colors, but on mine, voices 1 and 3 are both black and 2 is blue.

It is very difficult for even an experienced user to figure out what to do using the accompanying manual. The instructions for editing songs are very poor; a number of examples are given, but not adequately explained. It took time to figure out that the first 4 numbers of a line of music are line numbers. This cartridge could have been better if it had provided for disk saves and printed output. It would have been terrific if the staves and notes were displayed on the screen and could be output to the printer. Warning: after several days, **Music Composer** still works with my 64, but nothing else does. At $17, this cartridge seems like a good buy, but a cautious one. - Darrell Sage, Russelville MO

SPEAK EASY, $55-71 cartridge for **unexpanded VIC only.**
Voice synthesizer from Personal Peripheral Products.

Speak Easy is very easy to use with BASIC. One of its best features is that it is located in the I/O scratch-pad area (won't affect the amount of usable RAM), and uses the NMI to signal when it is through talking so **Speak Easy** can talk while doing another task. You can use an external speaker (more than adequate) or connect the audio output of **Speak Easy** to the Audio Input of your TV set (for increased volume). **Speak Easy** has adjustable, board mounted, volume and frequency controls. Frequency can be varied through software. I have written several programs which use all 4 voices. Although each voice speaks in turn, it sounds like all 4 voices are speaking simultaneously. The words are made up of combinations of 64 phenomes. You build your words from the phoneme tables provided, store the numeric code for each phoneme into a Data Statement with a POKE statement, and read the data one at a time. By clever combinations of phonemes and some imagination, you can give **Speak Easy** an accent. Personal Peripheral Products also sells a $12 cassette tape as an aid in building words for the first time user. This product is a breakthrough in terms of price/performance ratio. -Steve Garmon (Hardcopy)

Printer Aids:

CTRL-64, diskette for **64.**
Pretty-printer from Cardinal Software, 13646 Jefferson Davis Hwy., Woodbridge VA 22191. Requires CBM disk. Machine-language. Anti-warranty.

This program doesn't do all that much, but does it well. Basically, it traps all of

the 64's characters that an ASCII printer can't print well, such as color codes, and substitutes English words for them in printed listings. It is smart enough not to apply corrections to screen listings, and includes enough documentation of locations used and normal contents that even rather unusual printers should be adapted easily. It also usually stays out of BASIC's way, relocating itself to your choice of 5 locations in memory. However, it doesn't handle repeated characters properly. Instead of saying [3 down], it says [down][down][down]. A true super lister would ideally add at least a PETSCII to ASCII character code conversion, select a desired line length, supply spaces around keywords when lacking, and optionally list each BASIC statement on a separate printer line, properly indented within loops. **HES Lister** does all this for me (albeit slowly) on the PET. -JS

PRINTER UTILITY PROGRAMS, $20 cassette or diskette for **64** or **VIC.**
Printer utility program from Cardco Inc. Requires Card/? printer interface and datasette or CBM disk. Lifetime warranty. Protected.

These programs are printer specific; you choose your type from a list: Epson MX/RX/FX, Star Gemini 10X, Prowriter 8510 and NEC 8023. Features include Screen Dump, Reverse Screen Dump, Keyed Screen Dump, Commodore Graphics and others. With this utility package, **Card/?** users can take advantage of Commodore graphics on a non-Commodore printer, both in normal and reverse video modes. Didn't have time to explore the complete potential of the programs, but the basic functions performed well. You can disable functions if needed. You can also mix Commodore graphics with the built-in graphics of your specific printer. A Banner utility and Joystick Screen Draw utility are also provided. Looks like another well done product from Cardco that is well worth the money. -Jerry Key

[Cardco just called to report the new disk version also includes all the joystick drawing examples from the manual, along with 9 hi-res pictures for users to print out. -JS]

VIC CONTEST WINNER:

Pictured here is Newton Barnette of Charlotte NC, with the VIC he won last February for suggesting our favorite magazine name, the "Midnite X Press." He writes, "My family (including grandchildren when they visit) will enjoy the VIC a great deal. I am one of those who "never" enters contests and "never" wins at drawings, so it was a great surprise to receive the VIC."

"Although I am an electrical engineer (power systems), I have not learned enough about computers to do machine language or to understand interfacing at alll well which I regret very much. I am now retired and hope that I will get involved a great deal more..."

THE PAPER ARTICLES

Feature Article:
MIDNITE MUSINGS

THE WAR IS ON!

by Art Klinger

Regardless of how small and efficient they are made, multi-function chips and high-density memory do consume power and generate heat. AC power supplies do require transformers having size, weight and construction costs. Decent keybords, input-output cords and jacks, and usefully sized screens all do require assembly and consume space. Complex machines such as computers do need expensive, well done and (by consumer demand) ever-more-detailed operating and repair manuals. These things even the creative electronics engineer does not have control over. The packing, shipping and charges alone, for example, will be more than that for two or three DOZEN hand-held calculators, even if the manufacturer dared include only literature the size of a flimsy pamphlet like that for a simple 4-function calculator. Computer manufacturers must even inspect for and meet FCC radiation emmissions standards, a cost calculator makers don't consider.

Market forces - volume and competition - will, within the next two years, provide us with some full-featured small business machines in the $300 to $800 price range - but even then only if we can omit or replace the mechnically intensive components such as printers and disk drives. Home units will of course cost less than $100. Prices almost have to level out at that stage - $30 to $125 for small hand-held not-quite-real "computers," $250 to $1000 for serious yet not overwhelming personal computers, and $500 to $2000 for potent small business computers having significant mass non-volatile storage. Even if a manufacturer produced all of his electronics at zero cost, wrote off his R&D as a loss, fired all managers (they're useless anyway, right?), wrote rubber checks to cover network advertisements, and quit honoring warranties, he would still need this amount.

Technologists would probably agree that there is no reason television sets cannot be half the price they are now, except for what seems to be implied agreement among manufacturers interested in profits. The story in computers will probably be much the same - there is a lower limit to production costs, and AFTER the entrepreneurs and small but vigorous manufacturers are forced out of the scene by the big guns, prices will stabilize or possibly even rise slightly. They will probably settle at some value that is affordable by the consumer, yet profitable for the company. Like in the TV and Microwave Oven industry, progress will then continue in terms of increased features, not decreased prices.

We are now in a storm that will accelerate progress, but the conservative giants like IBM, Xerox and Texas Instruments would not be introducing their hardware if a good share of the storm and confusion was not already over.

Industry still has room to drop prices somewhat (particularly in electoMECHANICAL devices such as disk drives and printers) but the most dramatic changes in the CPU's or computers themselves will be in the form of added features or capability within a given price range. The price ranges for the three predominant classes - home/games, personal, and office/small business, are already fairly well defined. -(Reprinted from Commodore Newcomer's Newsletter #5)

Feature Article:
MIDNITE MUSINGS

Murphy's Original Laws

by Franklynn Peterson and Judy K. Turkel

We recently uncovered [Jacobus] Murphy's original manuscript, in his own handwriting, in an attic in Poughkeepsie, N.Y. So here for the [second] time in print are Murphy's Original Laws, complete with Murphy's own marginal notations.

MURPHY'S 1ST LAW

My computer is the greatest. In fact, my computer is so great I don't even have to look at your computer.

MURPHY'S 2ND LAW

On average it takes 2.7 months for new computers to lose their speed and power. (Note: After that standard period of time - known to us computer scientists as Wozniak's Constant - every computer owner or operator can be heard complaining about how slow the thing is.)

MURPHY'S 3RD LAW

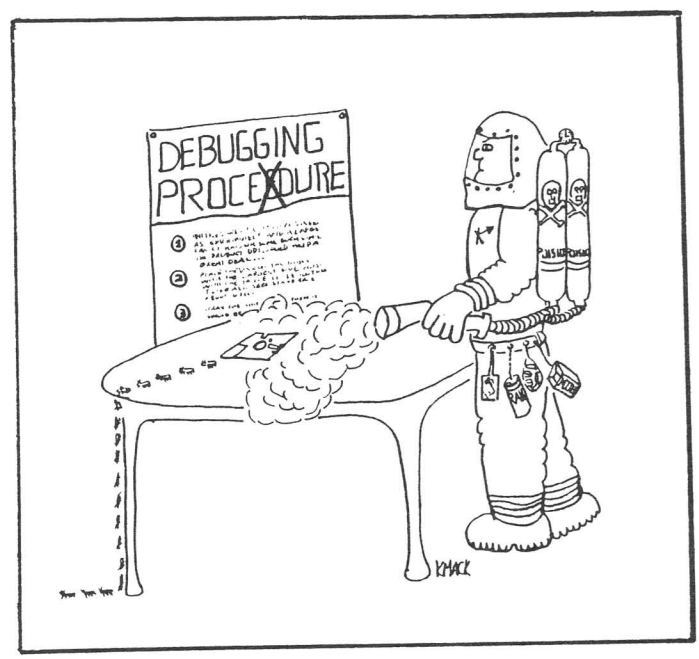
Next year someone, I forget just who, will announce a Super-Micro with 12000 K RAM, 100 megabyte hard disk, 350 CPS letter quality printer, and $6,000 worth of software - for $795. (Note: This ever-newer-and-better phenomenon leads many to say, "It doesn't pay to computerize yet." They are the same people who aren't buying a car until General Motors makes that super-sleek, super-safe, super-economical model they've had on the drawing boards since my childhood.)

MURPHY'S 4TH LAW

A month later, IBM will announce a better computer for $749. (Note: IBM'S practice is one-downmanship on computer prices, combined with the trick of holding new designs in limbo until they're needed to shoot down the non-competition's new introductions.)

MURPHY'S 5TH LAW

The best computer operators accidentally erase files more often than novices. (Note: They're confident, they're fast, they know just where all the keys are, they know just which ones to hit and when and, and, and ...oooooooooooops!).



MURPHY'S 6TH LAW

If something seems wrong, it is wrong! Save your files first. Then find out what's wrong. (Note: Too many people think that when a computer starts doing something dumb, if they only treat it firmly it'll start behaving.)

MURPHY'S 7TH LAW

When in charge, delegate. When in doubt, procrastinate. When in trouble, computerize. (Note: This law explains why nothing ever goes wrong for which I can be blamed.) -Reprinted from The Business Computer

Feature Article:
COMMODORE SOFTWARE

Commodore Buyer's Guide

by Jim and Ellen Strasma

Last month, Micro magazine asked Jim for his first, second and third-choice programs for the VIC, 64, and CBM/PET machines, to be compared with other surveys and printed in a future issue. Meanwhile, we thought some of you who have asked us for the same recommendations would like a preview of our favorite programs.

Type	Choice	VIC 20	Commodore 64
Education	1)	Pipes (Creative) $40	Tooth Invaders (Commodore) $30
	2)	Instrum. Flight Sim. (Academy) $40	Hey Diddle Diddle (Spinnaker) $35
	3)	Touch Typing Tutor (Taylormade) $20	Kinder Koncepts (Midwest S.) $40?
Game	1)	Choplifter (Creative) $40	Jupiter Jumpman (EPYX) $25
	2)	Serpentine (Creative) $40	Frogger (Sierra) $35
	3)	Shamus (HES) $35	Sword of Fargoal (EPYX) $30
Graphics	1)	Super Expander (Commodore) $60	Doodle (City) $30
	2)	Graphvics (Abacus) $25	SpryteByter (FoxSoft) $30-35
	3)	VIC PICs (Midwest Micro)	LOGO (Commodore) $60
Sound	1)	VIC Music Composer (Thorn EMI)	UltraBasic 64 (Abacus) $40-43
	2)	Synthesound (HES)	Synthy 64 (Abacus) $30
	3)	Piper (Abacus)	Music Composer (Commodore) $17
Business (Finance)	1)	Color Accountant (Prog. Inst.) $80	Businessman (Southern) $100
	2)	Totl Time Manager 2.1 (Totl) $30	Cyber-Farmer 64 (Cyberia) $140
	3)	Totl Business 3.0 (Totl) $85	MAS 64 Accounting (Info.) $80/ea.
Database manager	1)	Flex File 2.1 (Webber) $110	Oracle (Batteries I.) $150
	2)	Totl Label 2.1 (Totl) $20	Flex File 2.1 (Webber) $110
	3)	Research Assistant (Totl) $30	MDB Database (Mirage C.) $100
Spread-sheet	1)	Practicalc (Micro Soft.Intl.) $40	Calc Result: Adv. (Handic) $135)
	2)	Busicalc BC20 (Skyles) $69	Easy Calc Result (Commodore) $90?
	3)	Vicalc (UMI)	Practicalc (Micro S. Intl.) $40
Word Processor	1)	Write Now! (Cardco)	Easy Script (Commodore) $50
	2)	Wordcraft 20 (UMI) $100 or $200	PaperClip (Batteries I.) $125
	3)	Totl Text 2.5 (Totl) $35	WordPro 3+/64 (Pro-Line) $

Type	Choice	CBM/PET	
Education	1)	Comal 1.1 (COMAL Users Group ($495)	
	2)	Vanilla Pilot (Tamarack) $30	
	3)	Commodore's Public Domain Disks $300	
Game	1)	Microthello (A.B.) $10	3) The Dragon's Eye (EPYX)
	2)	Millipede (Nibbles & Bits) $15	
Graphics	1)	PIC Chip (Skyles) $80	distant 3) Vigil (Abacus) $35
	2)	Supergraphics (A.B.) $40	

Sound	1) 4 Part Harmony (A.B.) $40 2) Piper (Abacus) $25 & 30	3) Piano (Cursor) $6
Business (Finance)	1) BPI General Accounting $400/each 2) PET Speed 3.0 (Small Systems Eng.) $300?	3) CMS Accounting (Southern)
Database manager	1) Silicon Office (Bristol) $1000 2) Administrator (Professional) $650	3) Oracle (Batteries I.) $150
Spread-sheet	1) Calc Result (Handic) 2) Visicalc (Visicorp) $200	3) Colupad (Etcetera) $150
Word processor	1) Expanded PaperClip (Batteries) $125 2) Superscript (Precision) $250 3) Word Pro 5+ (Professional) $500	

COMPANY	ADDRESS
A.B. Computers	215 Bethlehem Pike, Colmar PA
Abacus Software	Box 7211, Grand Rapids MI 49510
Academy Software	Box 9403, San Rafael CA 94912
B.P.I.	3423 Guadalupe, Austin TX 78705
Batteries Included	71 McCaul St., Toronto ONT M5T 2X1 CANADA
Bristol Software Factory	Kingston House, Grove Av., Queen Sq., Bristol, UK BS1 4QY
Cardco	3135 Bayberry, Wichita KS 67226
City Software	735 W. Wisconsin Av, Milwaukee WI 53233
The Code Works (Cursor)	Box 550, 5778 Hollister, Suite B, Goleta CA 93116
COMAL Interest Group	505 Conklin Place, Madison WI 53703
Commodore Business Machines	1200 Wilson Dr., West Chester PA 19380
Creative Software	Box 4030, 201 San Antonio Cir., Mountain View CA 94040
Cyberia	2330 Lincoln Way, Ames, IA 50010
EPYX	Box 4247, Mountain View, CA 94040
Etcetera International	P. O. Box G, Apex, NC 27502
FoxSoft	c/o Foxfire Systems, Box 507, Deer Park TX 77536
Handic	c/o Computer Marketing Services, 300 W. Marlton Pike, Cherry Hill NJ 08002
Human-Engineered Software	71 Park Lane, Brisbane, CA 94005
Info Designs	6905 Telegraph Rd., Birmingham, MI 48010
Micro Software International	50 Teed Dr., Randolph MA 02368
Midwest Micro Associates	P. O. Box 6148, Kansas City MO 64110
Nibbles & Bits	P. O. Box 2044, Orcutt CA 93455
Precision Software	4 Park Terrace, Worcester Pk., Surrey, UK KT4 JZ
Professional Software	51 Fremont St., Needham MA 02194
Programmer's Institute	Box 3470, Chapel Hill NC 27514
Pro-Line Software	755 The Queensway East, Mississauga ONT CAN L4Y 4C5
Sierra On-Line	Sierra On-Line Building, Coarsegold CA 93614
Skyles Electric Works	231 E. South Whisman Rd., Mountain View CA 94041
Small Systems Engineering	1056 Elwell Ct., Palo Alto CA 94303
Southern Solutions	P. O. Box P, McKinney TX 75069
Spinnaker Software	215 First St., Cambridge MA 02142
Tamarack Software	Water St., Darby MT
Thorn EMI	1370 Avenue of the Americas, New York NY 10019
Taylormade Software	8053 E. Avon Lane, PO Box 5574, Lincoln NE 68505
Totl Software	1555 3rd Ave., Box 4742, Walnut Creek CA 94596
United Microware (UMI)	3503-C Temple Av., Pomona CA 91768
Visicorp	1330 Bordeaux Dr., Sunnyvale CA 94086
Webber Software	Box 9, Southeastern PA 19399

Feature Article:
WORD PROCESSING

MODIFICATION OF PAPERMATE

by Candy Jens

Here's a modification of Michael Riley's **Papermate** that prints a programmable character in the text. The line numbers are identical in all **Papermate 64** 16PM, 32PM, 80PM, and 32CMD64 versions - very helpful!

1) Renumber line 5661 to 5662.
2) Add this line:
   5661 If SA=5 THEN PRINT#PR,PRCR;:GOTO5670
   This line could be "IF SA>0..." to send other secondary addresses without chr$(17) but my printer doesn't support vertical spacing so I couldn't check it out.)
3) Change line 5800 from "CLOSE#PR" to "CLOSE PR". That's all!

Here's the results:
This is a very important test of the Commodore logo prog. character.
This is a test of a programmable character.

The file is written as below. The "equals" is actually typed as "=" in writing a file. REMEMBER to set lm (the left margin format command) to 0 before writing the information to the secondary address and reset it to whatever its value was before entering the characters for the programmable characters!

"This is a very important test of"
" the Commodore logo prog. character.[left arrow]"
"[up arrow]lm equals 0 [left arrow]"
"[up arrow]sa equals 5"
"[up arrow]ch equals 28"
"[up arrow]ch equals 34"
"[up arrow]ch equals 65"
"[up arrow]ch equals 65"
"[up arrow]ch equals 65"
"[up arrow]ch equals 54"
"[up arrow]ch equals 34"
"[up arrow]"
"[up arrow]sa equals 0:[up arrow]lm equals whatever it was [left arrow]"
"This is a test "
"[up arrow]ch equals 254"
" of a programmable character. [left arrow]"

****

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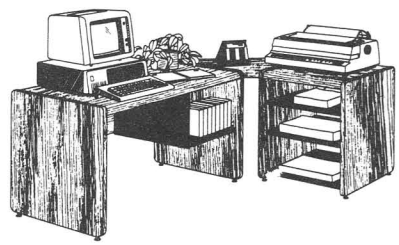

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FILE NAME: Leland Gas 82

1. Print Data
2. Draw Graph
3. Least Sq. Ft.
4. Save Data
5. Return to Main Menu
6. More Data—Same Building
7. Change Data Entry
8. Add Data
SELECT BY NUMBER 2

What y axis—select by number
1. "Usage/Day"
2. "Degree Days/Day"
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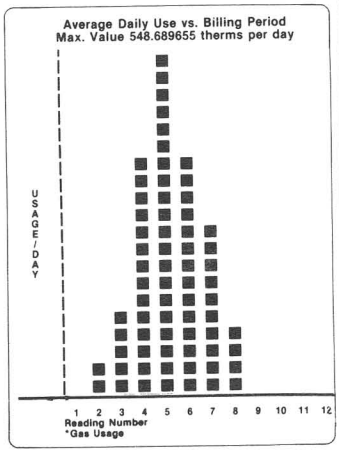
SELECT BY NUMBER 1
RESULTS TO PRINTER Y N



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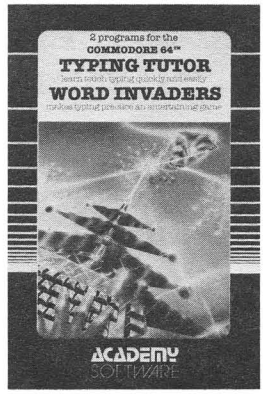

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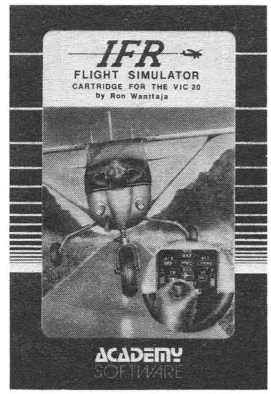

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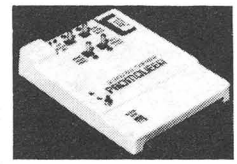

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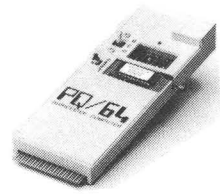

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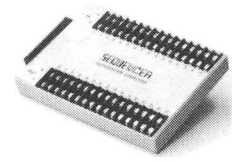

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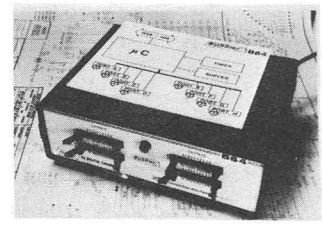

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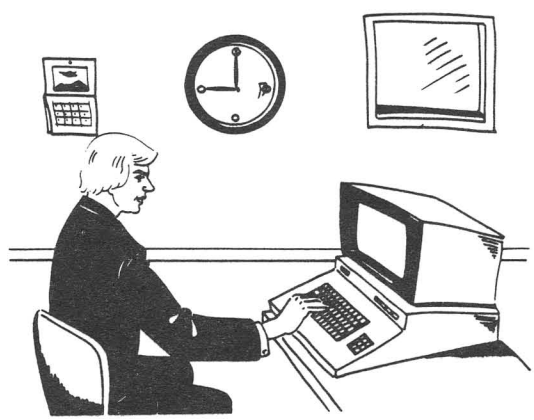

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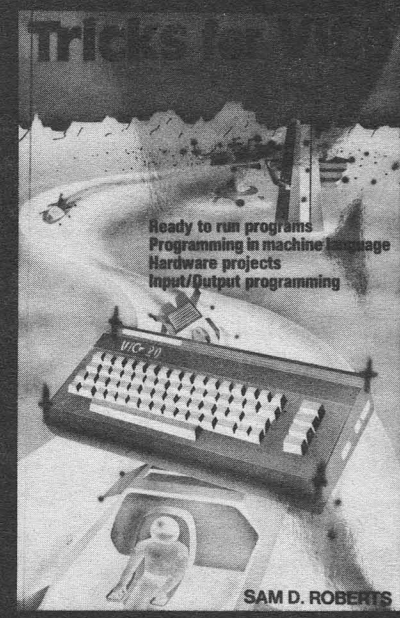

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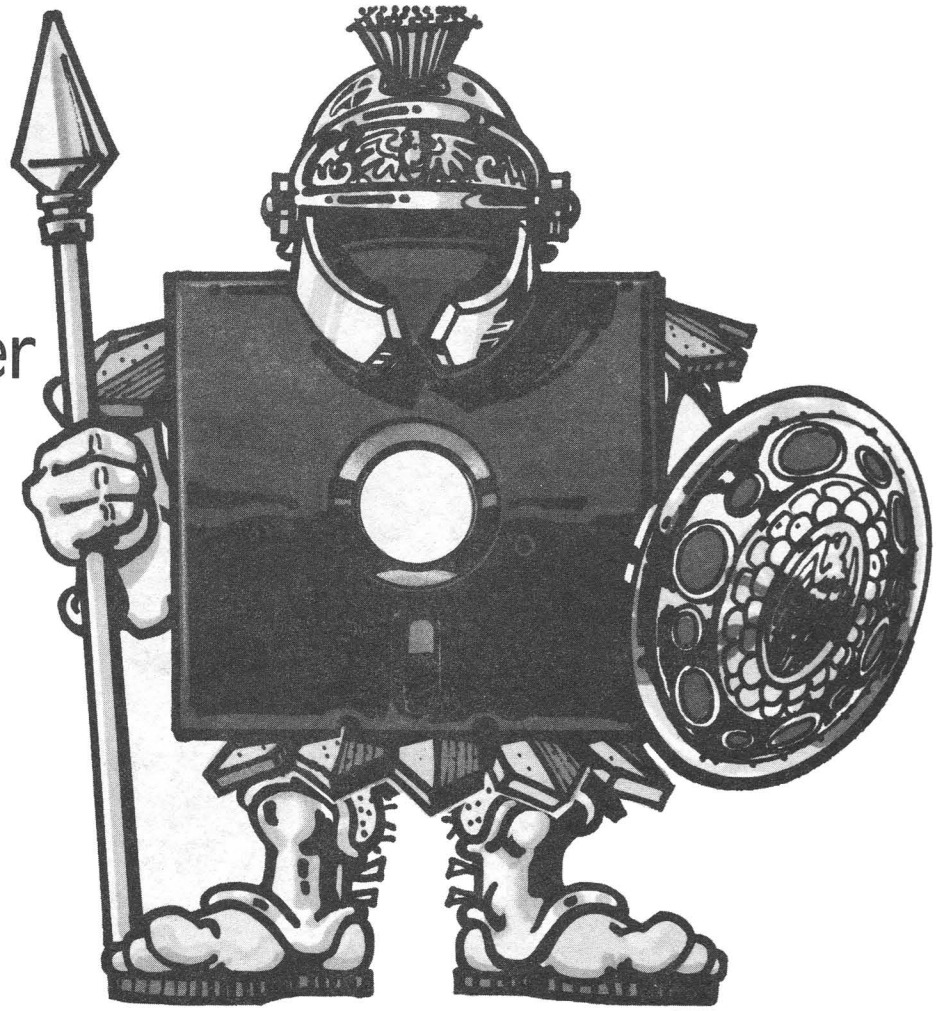

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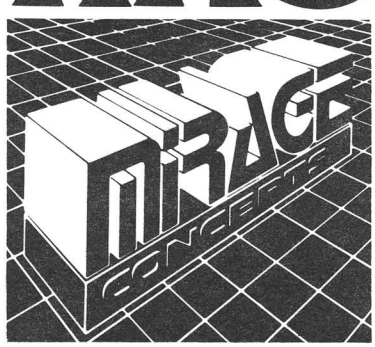

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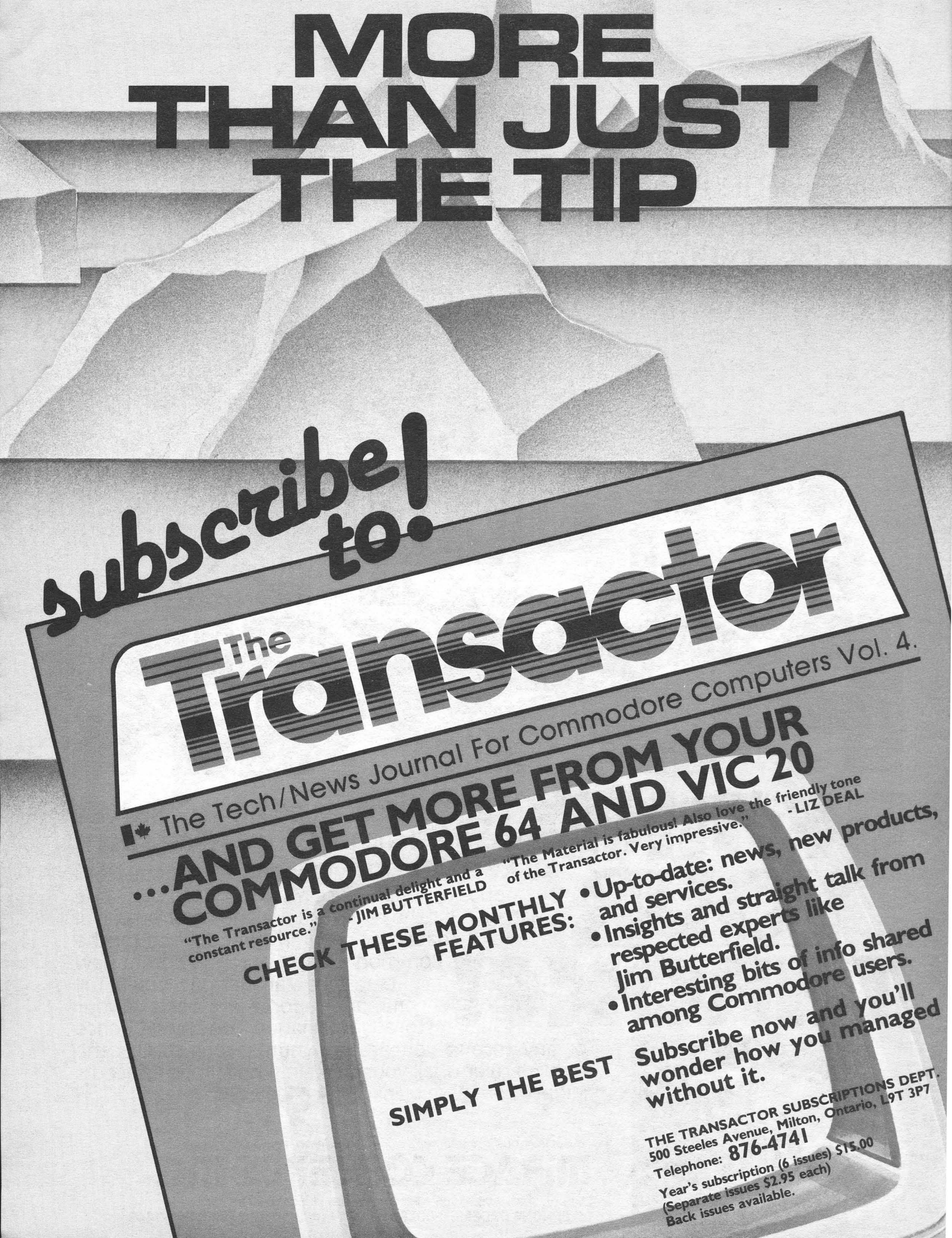

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